



# FLIGHT

&  
The *AIRCRAFT*  
ENGINEER.



First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

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## Flight.

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## EDITORIAL COMMENT.

"Newspapers are an essential part of our war organisation."—  
(Sir Auckland Geddes, Minister of National Service.)



It is with more than a little reluctance that we make the announcement that, as from our issue of May 2nd—next week, that is—the price of "FLIGHT" will be advanced to sixpence. As our readers will appreciate, we have been compelled to take this step of advancing our price for two reasons, one because of the tremendous advances in the cost of paper; the other, and the most important, by the urgent necessity of economy in its use imposed by the growing shortage of paper-making materials. In taking this step we are fully aware that we are likely to lose a certain proportion of our readers until better times allow of return to more normal prices, though we are assured, at the same time, that the temporary falling-off in the number of our readers is not likely to be either great or serious so far as the influence of this journal is concerned.

The decision to make such a relatively large advance in price has not been taken without the fullest con-

sideration, and the closest examination of all the conditions as they exist at the moment, nor has it been taken willingly. We feel that we are under an obligation to regard the interests of those who have been consistent in their support of "FLIGHT" since its early days, and even to place them before our own. Therefore, we have endeavoured to carry on without either reducing the quantity or the quality of the contents of the journal or to ask our readers to pay more for it, in the hope of an early return to better conditions, with a consequent easing of markets. But so far from there being any improvement, matters have become steadily worse, prices have become more inflated every day, with no prospect of anything but still further advances, and now it is nothing but the simple truth to say that newspapers all over the country are faced with a very serious crisis in paper supplies. All these things being so, it is inevitable that not only "FLIGHT" but others must at last adopt this, the only possible course, which we have elected to take.

It will help us and assist to spread the interest in aviation if our readers will arrange to share their copies of "FLIGHT," under the new arrangement, with one or more of their friends. As we have said, the main object of the increase in price is to keep

### IMPORTANT NOTICE.

Commencing with the issue of next week (May 2nd), the price of "FLIGHT" will be sixpence per week. This action on the part of the publishers is a necessity brought about by the restrictions placed upon the importation and manufacture of paper by the Government. We would once again urge the imperative necessity of our readers ordering "FLIGHT" to be reserved for them with their regular newsagent, or direct from the Publishers, 36, Great Queen Street, Kingsway, W.C. 2, to ensure obtaining copies regularly.

down the number of copies sold to such limits as will enable us to carry on with the available paper supplies, and the more the co-operative system of reading can be adopted, obviously, the better those supplies can be conserved in the interests of national economy of transport. Practically the whole of our paper-making materials are imported from overseas, so that it is clear that every ton of pulp saved means another ton of shipping for the conveyance of other essential supplies, so that the more this co-operative reading can be encouraged the more tonnage is set free for other work.

#### Government Funk-Holes.

The Government will be well-advised to give heed to the growing public exasperation at the anomalies permitted by its own departments in the matter of the retention in comfortable jobs of young men of military age and fitness. Nothing in connection with the working of the latest Military Service Act has caused more adverse comment than the policy of the "clean cut" below the age of 25, and unless we are gravely mistaken in our reading of the signs of the times, by no means the last has been heard of it. Young, fit men are being retained in the Government offices on the ground of alleged "indispensability" while men of over forty—and now up to fifty—with families dependent upon them and with business responsibilities to carry, are being ruthlessly dragged away and drafted into the fighting services. If these Cuthberts were really indispensable there would be no complaint about their retention, but the country is a very long way from being satisfied that if ninety per cent. were taken for the Army their work could not be done by older men or by others who have served at the front and have been returned unfit for further military service. We can understand the indispensability of the man with twelve or fifteen years' service and who is in responsible charge of a section of his department, but the young men of five or six and twenty, rated possibly as a third-class clerk, is another matter altogether. There is only too much reason to suspect that in very many cases he is "indispensable" to his social connections, and to them only. His department could get along very well with a substitute, and he would be a very welcome recruit to the army in this time of crisis.

Even in the departments themselves there appears to be incipient revolt against the system, particularly in those concerned with the production of war material and other essentials. Here, for example, is the text of a resolution passed by the workmen at the Royal Arsenal, which speaks for itself:—

"We, the working men of all grades working in Woolwich Arsenal, are determined to do our utmost in helping the Government to win the war; and we demand that all should pass a fair tribunal. We call upon the Government to make full investigation into the question of the young indispensables attached to the administration departments. In the country's interests we call upon the Government to stop immediately the practice of appointing military officers to posts for which they are absolutely untrained and unfitted. We draw the attention of the Government to the scandal of the chief recruiting officer for Woolwich Arsenal, an unmarried man of 30 years of age, Class A, nearly 6 ft.; and we demand his immediate removal to his proper sphere—the Army, and all the other fit young men attached to the administration office, whose work can be performed by women and ex-soldiers. We declare in our solemn judgment, having full working knowledge of the facts, that khaki control of civil labour in technical industry in the Arsenal is against the country's interests. We believe that production would be enormously increased and the cost vastly decreased if every department

were under the absolute control of competent civilian administration; and that fewer young men would be indispensable in the administrative offices if the officers in charge were competent to perform and direct the duties attaching to their posts."

We know nothing of the individual merits of the case therein referred to, but the principle of setting a young, single and fit man to "comb out" men of ten or a dozen years older than himself, many of them with domestic responsibilities, is more than wrong—it is absolutely criminal in the circumstances. Not only does it constitute a grave injustice to others, but it carries with it the making of unrest and trouble.

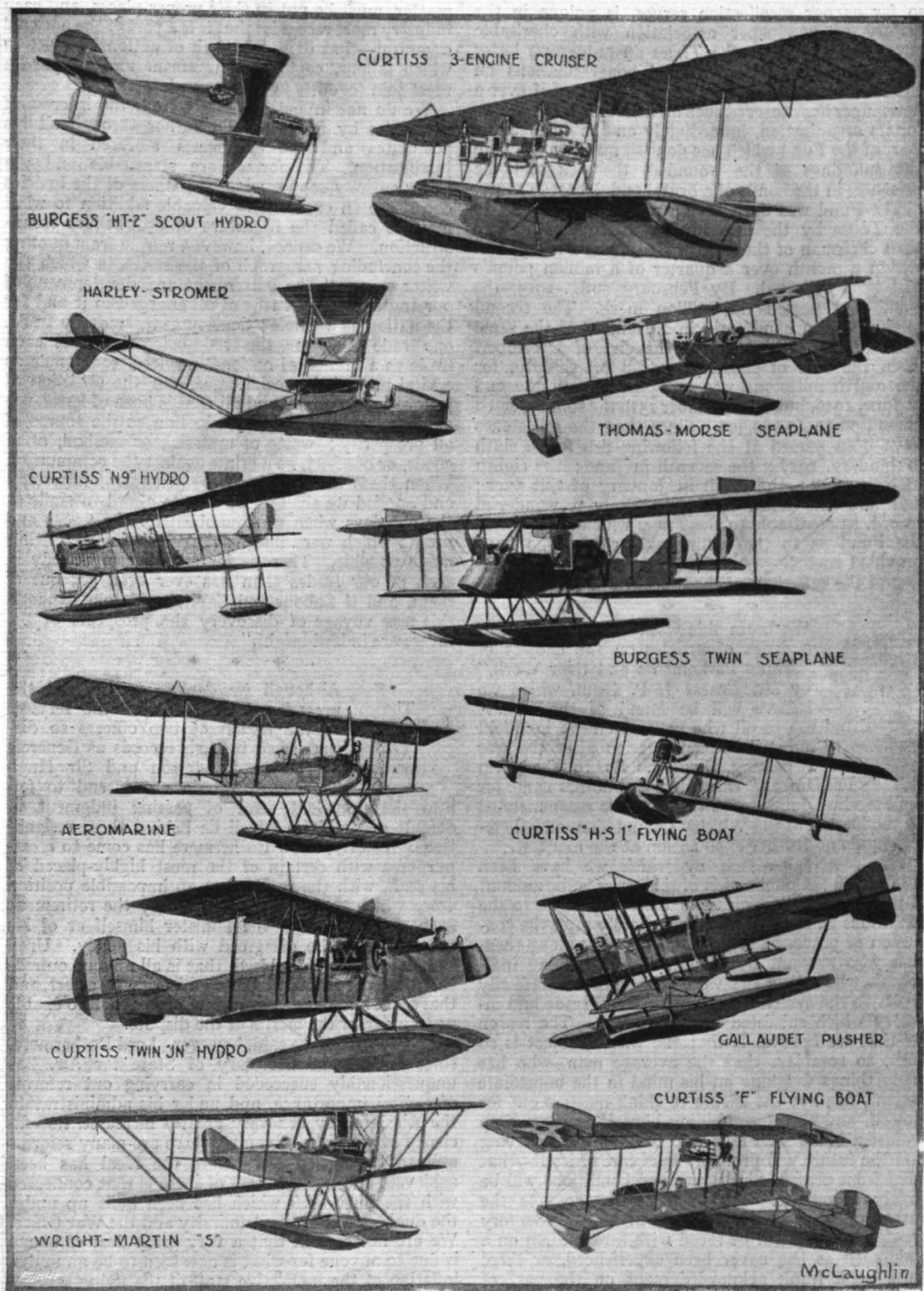
#### Khaki Control.

There is a point raised in the resolution quoted in the preceding paragraph which gives food for serious thought. We refer to "khaki control" of industrial undertakings—a subject to which we have given some little attention in the past. We confess we are at a loss to understand the necessity for putting uniformed men in charge of production. It seems to us to be perfectly clear that works' production is a civilian job at any time—even now—and when the right man has been selected for the job, even though he may be a soldier, he should become, at least for the time being, a civilian, unless we are going to completely militarise our essential war industries. As that necessity has not been recognised, our works and our factories remain civilian enterprises, even while they are "controlled" in the interests of the State. Therefore, to put soldiers, as soldiers, in active control is an anomaly which can achieve no useful end, while at the same time it engenders suspicion in the minds of the workers who see in the uniformed official the first step towards a permanent régime of Prussianised control of industry. Further, it is not only the workers themselves who see in it the germ of nationalisation of private enterprise. Not so very long ago we felt impelled to enter a protest against the steady tendency evinced by the Government to gradually khaki-ise, if we may use the term, the aircraft industry. That tendency, as we pointed out at the time, had begun to give rise to a very solid fear that the intention was present to completely monopolise the industry at some future time, nor, we may remark, has anything happened in the meantime to remove that impression.

Our own opinion is that the Arsenal workmen are absolutely right in the views they express on this subject. Not only does khaki control, as we have said, give rise to suspicion of ulterior motives, but it is a fact that in far too many cases the selection of officers for duty in civilian factories is made not on suitability for the tasks assigned to them, but for some other reason altogether. It is perfectly obvious, as the resolution indeed points out, that when the person placed in charge of production does not know the alphabet of his business, he must be supplied with a staff which does possess the necessary knowledge. That way lies a grave waste of effort and of money. In a word, the system is bad from whatever angle of view it is regarded.

#### "The Tenth Milestone."

Under this heading the *Times* last week was able to record that the Red Cross Fund, inaugurated by that journal on August 31st, 1914, had reached a total of over ten millions of pounds. His Majesty the King signalled the occasion in a manner which,



American aeroplane types of 1917-18.

(*"Aerial Age," U.S.A.*)

so far as our recollection serves, is unique in the history of newspaper association with charitable effort by sending to the *Times* an autograph letter expressing his satisfaction and congratulations on the success of the Fund. Certain it is that if ever a newspaper has deserved such an honour it is the *Times*, for its organisation, immediately on the outbreak of war, of the Fund which has done so much to alleviate the sufferings of the wounded, the sick and the prisoners in the hands of a brutal and debased enemy.

The Fund was opened as a result of an appeal to the *Times* by the late Lord Rothschild, who was then chairman of the British Red Cross Society, and within a month over a quarter of a million pounds had been collected. By February 20th, 1915, the Fund had passed the million mark. The second million was in hand early in November of the same year, and the third before the end of December. Then the rate of subscription fell off slightly, for the fourth milestone was not passed until the end of June, 1916, but by November 15th the sum collected amounted to £5,082,309. Since then the milestones have been passed at the following rate: the sixth in January, 1917; the seventh in June; the eighth in November; the ninth in January of this year; and now the tenth in April. Truly a wonderful record, as creditable to the *Times* which inaugurated the Fund as to the willing subscribers who have provided such huge sums of money for the alleviation of the sufferings of those broken in the war.

#### Trade Parliaments and their Work.

We begin this week the publication of a series of articles on the subject of "Trade Parliaments and their Work," by Mr. Ernest J. P. Benn, which we believe will be found of the utmost interest and use to all who have given the manifold problems of industrial reconstruction after the war more than a passing thought. As to the term "Trade Parliament," this is simply another name for the Standing Joint Industrial Councils recommended by the Report of the Whitley Commission, and therefore needs no further explanation at the moment.

The principal reason by which we have been actuated in the publication of this series is the amount of misconception which undoubtedly exists as to the conditions which will exist immediately after the conclusion of peace. There are many, and among them men who are not by any means unthinking individuals, who believe that we shall more or less gradually revert to the systems and conditions of trade and industry which subsisted before the war. The reason for this, we believe, is that the whole subject is so huge, so complex, that the average man, who has many things weighing on his mind in the immediate present, has not the leisure to think matters out for himself, and therefore, finding himself as it were up against a blank wall falls into the habit of believing that the future will probably take care of itself—that relief from present disabilities and conditions will be largely automatic. That will not be so. As the author of the series points out in his introductory article, industry will be faced with a revolution on a scale such as has never been experienced, or there must be a frank acknowledgment on the part of employers and employed that it will be carried on in the future under different conditions and ideas to those governing it in the past. Wages and profits, which have been regarded as the only things that

matter, must be put in their proper places, and each industry must recognise that it is a part of the national organism—that it is a branch of national service in which labour, capital, management and all parties must join together in a common interest.

We do not intend to detract from the interest of the series by following the author through all his postulates and the arguments adduced in their justification. The former are reasonable and the latter entirely sound, while the whole of the articles constitute an exceedingly valuable addition to what may be called the literature of post-bellum reconstruction. We cannot, however, refrain from quoting the concluding paragraph of the series, in which the writer says: "The betterment and development of our trade for the benefit of all engaged in it and for the nation as a whole; development, trade by trade, one trade at a time, the trade being the unit; each trade as a branch of national service; each trade as a vital part of the social organism; the abolition of jealousy and secrecy and all that is born of ignorance and small-mindedness; production as the source of all prosperity; waste of material, or method, or of goods, or of effort, as a crime against the community. When these ideas begin to be generally understood and applied we shall all be able to afford to smile at the old days when we squabbled for the wages and profits which were insignificant beside what is thus made possible. There is far more for everybody in each of our trades than has ever been got out of them, and if Labour and Capital will join hands in this new voyage of discovery the prospects of the future are indeed bright."

#### The Resignations at the Air Ministry.

Although we deplore to the full the necessity which has lost the services to the nation of two officers so distinguished in their records as Generals Sir David Henderson and Sir Hugh Trenchard, we do not intend to fall into the prevalent error of passing judgment in default of the facts which lie behind these resignations. Clearly, Lord Rothermere has come to cross-purposes with certain of the most highly-placed of his staff, with the result that an impossible position arose which could only be solved by the retirement from active work of the Minister himself or of his subordinates who disagreed with his policy. Until the real facts are disclosed, that is all anyone outside the principal actors in the case is able to assert, and that scant knowledge is certainly not enough to enable us to judge of the merits of the dispute.

There is this to be said, however. Lord Rothermere, since he became Secretary of State for Air, has unquestionably succeeded in carrying out reforms of capital importance, and under his administration the Air Ministry has very greatly increased its efficiency of working. Even so, there are many reforms still to be carried out before the ideal has been achieved, and not the least of these is that connected with the huge staff which has been built up under the dual control of the Admiralty and the War Office. We are not certain that a very great deal of blame is due to anyone for what is now seen to be an undue inflation of the ineffective staff of the flying service. When a great service has, during war time, to be created from the tiniest of nuclei, as we have had to improvise the R.A.F., the first essential is to get things done. Expense and the duplication of effort

are beside the point for the time being. The main thing is to get there at once.

But, later, there comes a time when the process has taken on a new aspect, and there is time and opportunity for stock-taking and an all-round revision of methods. Unless we are much mistaken, this time of revision has arrived at the Air Ministry, and Lord Rothermere is engaged in carrying out reforms which bring him into a direct conflict of policy with some of his staff. So much is fairly clear, but in order to form a competent judgment, we must know exactly on what points of policy friction has arisen. In the meantime, all we can say is this: that Lord Rothermere was selected for the post he holds because he carried the confidence of the Government of the country. He has done nothing to forfeit that confidence. On the contrary, his work at the Air Ministry has increased the measure of that confidence, and, deplorable as it seems that friction so grave has arisen as to cause two of our most distinguished air generals to take the extreme step of resigning their functions almost in the face of the enemy, we must know a great deal more of the circumstances before joining in the outcry against the civilian heads of fighting departments. This seems to be eminently one of the cases in which the policy of "wait and see" is the only correct one to be followed.

#### A "Welfare" Scheme.

We have before us the outline of a scheme for the welfare of disabled soldiers and sailors which greatly commends itself to us. Inaugurated by a firm in the aeronautical industry—Messrs. W. Cole and Sons—the idea is that everyone who can afford it shall subscribe the quite small amount of threepence per week until the end of the war, the resultant fund to be devoted to the relief of necessitous cases among our disabled heroes or their dependents. The whole of the administrative work is to be done without payment or reward by local committees appointed in each borough or district, such committees to be responsible for all cases within their own areas, so that every penny subscribed may be applied to its legitimate object.

The sponsors of the scheme have begun the list with a handsome donation of their own, while every individual worker in their employ has agreed to pay the suggested weekly subscription. Therefore the idea has gone beyond the suggestion stage. In fact, it has received quite a good start, and we commend it to the principals and workers in other firms in the industry as an example well worthy of imitation.

#### The Extension of Rationing.

Lord Rhondda's department has been responsible for a great deal of good work in the conservation of our food supplies, and it has made inevitable mistakes, though on the whole its errors can be forgiven it. But its latest scheme for the extension of rationing in the case of heavy manual workers has subjected it to severe criticism—and very justly—on the ground of its unfairness. It may be agreed that really "heavy" manual workers require more food than those engaged on lighter labour, and it may, therefore, be conceded that the principle is fair enough. When the schedules come to be examined, however, it causes one to marvel at the peculiar definitions of "heavy" labour at which the Ministry of Food has managed to arrive.

Again, certain of the statements to which the Ministry has committed itself are so utterly at variance with dietetic facts that they cannot be allowed to pass without challenge. The general statement issued by the Ministry in answer to enquiries is interesting. It says:—

"The plan of giving supplementary rations in respect of physical work is based on the report of a Departmental Committee on Rationing. The Committee included several scientific and medical experts. The desire was to get a scientific basis for rations, and the report of the Committee was submitted to and approved by the Food (War) Committee of the Royal Society. It provided for giving a supplementary ration to practically all industrial workers, with further supplements to those who were engaged on particularly severe work. The Parliamentary Committee of the Trade Union Congress was consulted as to whether or not this further supplement should be given to a limited number of workmen selected from the whole body of workmen. In view of their expressed opinion, it is not proposed to give any such supplement at present.

"No supplementary ration is being given to brain workers, because scientific opinion is unanimous to the effect that a man does not need any more food because he works with his brain than he would need if he were not working.

"In this connection, it may be pointed out that the extra ration is not available for butcher's meat, and is, in fact, a bacon ration. Bacon is dietetically more akin to fat than to ordinary butcher's meat, and is exactly what is wanted for bodily labour. It is not important for brain workers."

If the Ministry really desired to arrive at a scientific basis for rationing it has certainly achieved a conspicuous unsuccess. Take the case of the brain-worker as one in point. It will be observed that the statement we have quoted says that scientific opinion is unanimous that the brain-worker does not require more food because he works with his brain than he would need if he were not working. Scientific opinion is *not* unanimous on that point. As a matter of fact, the balance of scientific opinion appears to be all the other way and in favour of the theory that the brain-worker really needs more food to repair waste than the heavy manual labourer. If that is so—and, as we say, the balance of scientific opinion is that way—then Lord Rhondda is taking grave risks. Admittedly, labour is exceedingly important now, but just as important is the brain which directs its effort. Without that directing brain labour is helpless, so that if it is deprived of the food necessary to keep it up to concert pitch the whole fabric of our effort may break down. We do not say that there is this danger, but we do aver that the whole basis of the scheme rests on false premises and that Lord Rhondda would do well to take the opinions of other experts than those he appears to have consulted and see if they agree that his scheme is really a sound one.

#### A Worthy Object.

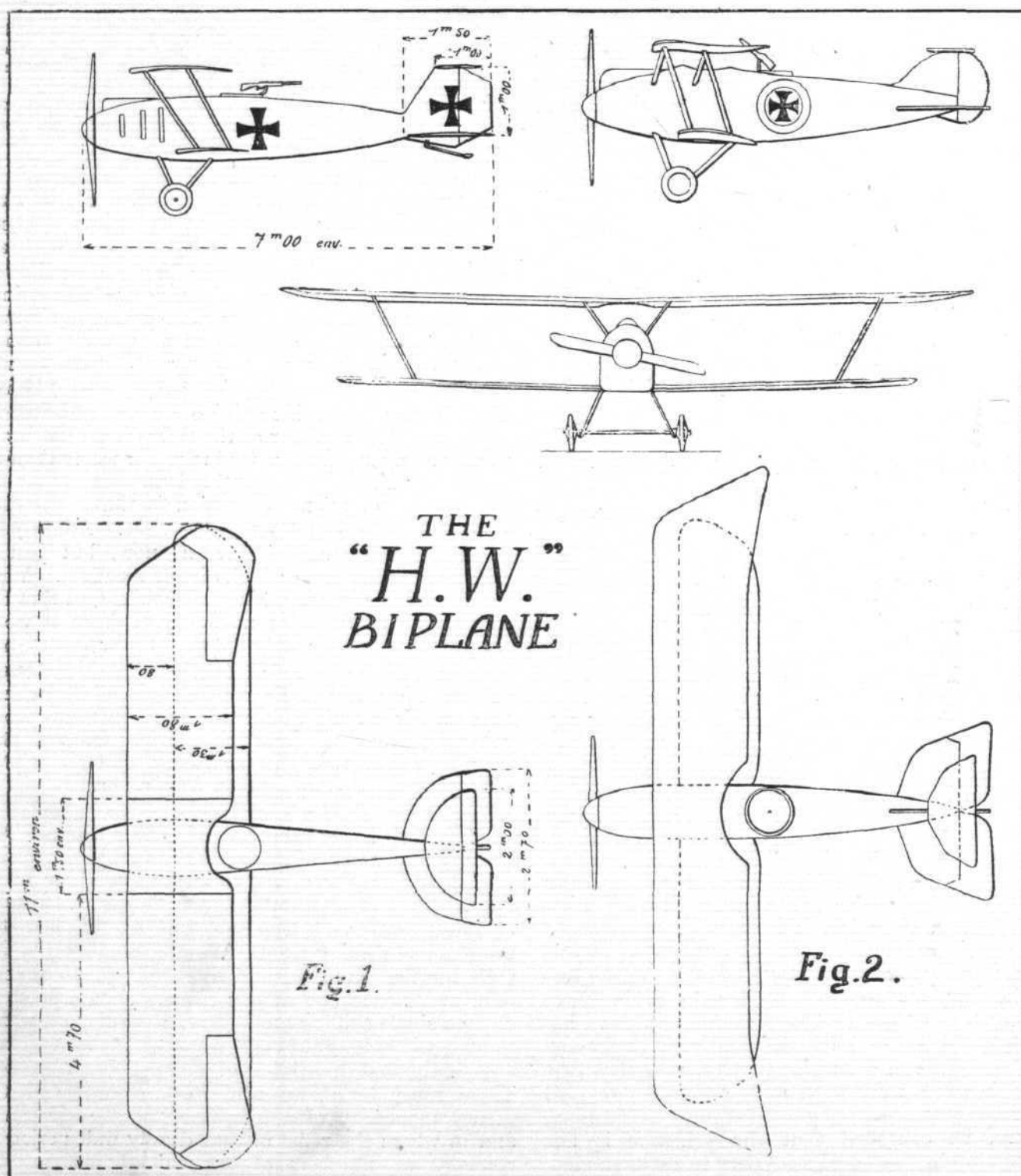
In connection with our appeal last week to our readers to assist in raising the sum of £50 for the purchase of an Æolian Vocalian for the R.F.C. Hospital at Hampstead, we have decided to let this take the shape of a shilling fund. We are heading the list with the first hundred and five shillings, so that it only needs that 900 of our readers should send us along a single shilling each—truly a small sum, which no one will miss—although we shall gladly welcome any individual multiples of shilling contributions. There must be many who have experienced the dreary monotony of a long hospital convalescence, and to whom the relief of that deadly dull period of recovery to numbers of our gallant airmen will appeal with the greater force. But no matter from whom, we want this money, and we rely on our readers to send it to us, and soon.

# A GERMAN "MYSTERY" BIPLANE—THE H.W.

[From time to time reports have been received of a certain type of German aeroplane having a biplane tail being observed at the front. Reports differed considerably as to the exact shape of the machine generally, but all appeared to tally regarding the biplane tail. Our excellent French contemporary "l'Aérophile" has previously called attention to this unusual tail plane arrangement, which had been observed both from the ground and by French aviators—at a distance. Now, however, one of these machines has been brought down on the French front, but unfortunately the smash and the subsequent fire did not leave much on which to base a reconstruction of the machine. The only clue to its identity appears to be that it was marked H.W., which initials are variously interpreted as "Halberstadt Werke" and "Hannover Werke." Be that as it may, the following notes from our French contemporary, and the two sets of diagrams representing the probable approximate appearance of the machine, should be of interest, and we would ask any of our readers who may have seen this machine to send us a rough sketch of what is, in his opinion, the general form of it. In this manner it may be possible to piece together sufficient to arrive at a fairly accurate idea of the characteristics of this German "mystery" machine.—Ed.]

A RECONSTRUCTION of the H.W. biplane has been attempted, based on the wreckage of one of these machines brought down on the French front, where

it was badly burnt. This reconstruction takes the form shown in the accompanying sketch. The H.W. biplane is a two-seater. The span of the



DIAGRAMMATIC RECONSTRUCTION OF THE GERMAN "H.W." BIPLANE.—Fig. 1, as reconstructed from wreckage. Fig. 2, as observed by Lieut. Mussat.

upper wings is approximately 11 metres, and of the bottom wings about 10 metres. The wings have a dihedral angle but no sweep-back, and are staggered. The upper wings are of trapezoidal plan form with balanced *aileron*s, the trailing edge of which is extended, giving somewhat the appearance of the old Taubes. The lower wings are also of trapezoidal plan form, but have the rear corners rounded off.

On each side of the *fuselage* there is one pair of inter-plane struts, sloping forward in conformity with the stagger and also sloping outward as shown in the front view. These struts are in the form of stream-line steel tubes.

The tail is of the biplane form, the top plane of it being considerably smaller than the bottom one. We have already indicated the armament: two machine guns, one in front and one behind. We may add that certain machines of this type have been fitted with bomb racks, while another was equipped with a camera. This is natural as the machine belongs to the C class (general utility). The accompanying sketches illustrate the differences between the different versions.

The plan form of the wings is almost definitely determined, but the *aileron*s, which have rounded tips in the diagrammatic reconstruction, come to a point in the sketch drawn by Lieut. Mussat. In the first case the tail plane is rounded and the fin and rudder of polygonal contour. The contrary is indicated in the letter from our correspondent,

who says: "I insist in particular on the following points: The *fuselage* is very deep, and the top plane is very close to it. The contour of the rudder and its fin is very rounded and *not* polygonal as in the reconstructed view. The tail planes are polygonal in plan view, with the angles rounded off."

In reconstructing the machine the length of each top wing was found to be 4 metres 70 from root to tip. The span found for the bottom wing was in the neighbourhood of 11 metres, and as, according to all the observers who have had an opportunity of seeing the machine, the bottom plane was of smaller span than the top one, it was concluded that there must have been a fixed centre section in the top plane. No trace has, however, been found of such a centre section.

Our correspondent calls our attention to the deep *fuselage* close to which is the top plane. On the other hand our contributor, Jean Lagorgette, who, from the hospital, follows closely any novelties, advances the following hypothesis: If there was a fixed centre section it would probably be made of steel tubes. [The inference being that it would in that case have survived the flames.—ED.] If no trace has been found of it or of its *cabane* this centre section does not exist, and the top wings attach directly to the body as in the Roland.

In any case, the *fuselage* being high, the rear gunner would be able to fire upwards. According to observers on the ground this machine is very fast and has a high "ceiling."

## I.—AN ORDINARY SCRAP IN THE ORDINARY LIFE OF AN ORDINARY PILOT.

I OFTEN wonder if other pilots hate the early O.P. (Offensive Patrol) as much as I do. I always did dislike getting up early in the morning, but it always seems doubly as unpleasant if one has to get out of a fuggy warm bed, pull on clothes, heave oneself into a machine, and crash into the atmosphere. On the particular morning I am going to relate about, I simply hated getting up, the weather was doubtful and very cold. After having "clapped" up all my pilots from the remains of a greasy breakfast, we all walked down to the sheds. There was a glorious dawn but no one took any notice of it. We were all far too "bleak" to speak to each other, except one Canadian, who was "hearty," as he always was on every possible occasion. Sometimes we all cursed him for it. On occasions everyone was grateful to him for unveiling humour at times when we none of us could see any.

We ran up engines, taxied out, took off and got formation over the aerodrome at about fifteen hundred feet.

I led the patrol away from the lines climbing hard, turned east again, struck the lines at about nine thousand feet and started our patrol. The Hun never starts his work for nearly an hour after British machines have started, but if we once started work later, he would at once get his artillery machines up, so as to work unmolested.

We swept from the south to north-east of the lines, coming down against the wind over the trenches. We repeated this performance twice, and had done 50 minutes of our patrol, when coming down south I saw two two-seaters about 5 miles over Hunland. I had a look into the sun for scouts lurking high up, ready to pounce on us when we attacked the two-seaters, but all was clear. The rest of the formation closed up, having also seen the Huns. We worked our way east and into the sun, and when about two thousand feet above them we dived to attack. A fight is always a hard thing to record accurately afterwards, as everything happens so quickly. On this occasion I tried to take the two-seater

in his blind spot. He saw me, swung round, and I found myself sitting on his tail, both my guns going hard, and the Hun observer firing hard at me. I found this rather too hot for my liking, so pulled away, just as another of my people came down like a stone on to the Hun. I looked towards the other Hun, and saw him going down east with two Camels hanging on him like leeches. I took another look round, for in a fight if a pilot does not look round he may be leapt on any minute, and to my immense surprise saw an Albatros scout about 200 feet below me, west of me, and flying towards me. I suppose he was flying to the rescue of the furthest two-seater, for I am certain he never saw me from start to finish. I waited till he came to within a hundred yards of me, dived my machine steeply at him, pressed both gun controls, and waited till he passed through my telescopic sight. I must have ripped him open from end to end. I swung round, unfortunately getting him underneath me where I could not see him actually burst into flames, which is what occurred. I flew back to the lines to our rendezvous, where I pick up my formation again and reformed. By the time we had got our height again, I had spotted another two-seater at about the same place as our previous scrap. The formation went at it, but it sighted us before we got to close range, put its nose down, and ran away followed by bullets from 10 machine guns, unfortunately at rather long range. The patrol had by then more than done its time, so that we flew back to the aerodrome and breakfast. As I stopped my engine in front of the sheds the recording officer, who, in spirit, is an enthusiastic war pilot, rushed up to tell me that a message had come from the A.A. anti-aircraft batteries saying five Camels had tackled three Huns. One Hun scout shot down in flames, and one two-seater completely out of control, which had been shot down by the two people I had seen tackling it.

We all felt that after all the early patrol sometimes was not so bad as it was painted.

H. B.

### Examination of R.A.F. Candidates.

THE Secretary of the Air Ministry states that complaints have been made that R.A.F. cadets from various districts are obliged to travel to London for medical examination. Arrangements have now been made for the examination of all candidates at the centre in Arkwright-road, Hampstead, before they are drafted to cadet wings or schools of aeronautics. A depot has been established at Hampstead to which

all candidates are sent for their medical examination and subsequent attestation, vaccination, and so on. The medical examination will be carried out, as before, by the Aviation Candidates Medical Board, which consists largely of experienced and expert medical officers, and has been enlarged and strengthened to meet the needs of the service. No candidate will in future be sent to a cadet wing or training school until he has been examined by this board and pronounced fit for aviation.

## HONOURS.

### Belgian Honours for R.F.C.

It was announced in a supplement to the *London Gazette* on April 15th that the following decorations have been conferred by the King of the Belgians for distinguished services rendered during the course of the campaign:—

#### *Cross de Guerre.*

77880 2nd Air-Mech. F. Goodspeed, R.F.C., 78272 2nd Air Mech. T. F. Goodwin, R.F.C., 5293 Sergt. (Flight Sergt.) A. J. Graham, R.F.C., 98931 Corpl. G. Holmes, R.F.C., 7890 Corpl. A. R. Jackson, R.F.C., 6413 Corpl. J. O. Jones, R.F.C., 8506 1st Air-Mech. S. O. Kelly, R.F.C., 21306 Flight Sergt. L. C. King, R.F.C., 6188 Corpl. R. E. Knight, R.F.C., 9023 1st Air-Mech. W. F. Lange, R.F.C., 2410 Sergt. C. Lewis, R.F.C., 14796 1st Air-Mech. (Acting Corporal) J. A. Macdonald, R.F.C., 106099 2nd Air-Mech. J. McMechan, R.F.C., 106809 Corpl. W. Metson, R.F.C., 9856 1st Air Mech. H. W. Moore, R.F.C., 8216 1st Air-Mech. R. C. Platford, R.F.C., 2290 Sergt. (Flight Sergt.) S. Potts, R.F.C., 4916 1st Air-Mech. (Acting Corpl.) J. Reardon, R.F.C., 6372 Corpl. E. Spencer, R.F.C., 7916 Sergt. (Flight Sergt.) F. W. Strand, R.F.C., 8755 Corpl. (Acting Sergt.) G. R. Sykes, R.F.C., 44986 2nd Air-Mech. F. J. Tingey, R.F.C., 77881 2nd Air-Mech. W. Titchmarsh, R.F.C., 4492 1st Air-Mech. C. H. Topps, R.F.C., 5521 Corpl. G. W. Whitehead, R.F.C., 61929 1st Air-Mech. W. Wilkes, R.F.C.

### Honours for the R.N.A.S.

It was announced in a supplement to the *London Gazette* on April 17th that the King has been pleased to approve of the following award for services in action with enemy submarines:—

#### *Distinguished Service Cross.*

Flight Lieutenant H. L. Nunn, R.N.A.S.

The King has been pleased to approve of the award of the following decorations and medals to officers and men of the Royal Naval Air Service:—

#### *Distinguished Service Cross.*

Flight Lieutenant (Acting Flight Commander) C. B. RIDLEY, R.N.A.S.—For distinguished services as a pilot and for courage in low-flying expeditions during which he attacked enemy trenches with machine gun fire from a height of 30 ft. On March 9th, 1918, he attacked a formation of enemy scouts, selecting one which was attacking one of our machines. The enemy aircraft dived down with a quantity of smoke issuing from it, but appeared to flatten out at 2,000 ft. and disappeared in the mist. He has previously destroyed several enemy machines, and has at all times led his flight with great skill and courage.

Acting Flight Commander C. F. BREWERTON, R.N.A.S., and Flight Observer H. A. FURNESS, R.N.A.S.—For the skill and courage displayed by them in carrying out many long and valuable photographic reconnaissances over enemy territory, particularly over Ostende, on February 21st, 1918.

Flight Lieutenant B. A. MILLSON, R.N.A.S.—For the skill and courage displayed by him in carrying out two successful bombing raids on Bruges Docks on the night of February 17th–18th, 1918. This officer has taken part in many night bombing raids.

Flight Lieutenant J. de C. PAYNTER, R.N.A.S.—For the good work performed by him during a bombing attack on Ostende Seaplane Base on March 3rd, 1918, carried out in spite of very adverse weather conditions. He has shown great zeal and courage as a fighting pilot, having destroyed several enemy machines, and been twice wounded in aerial combats.

Flight Lieutenant F. G. HORSTMAN, R.N.A.S.—For good services rendered in a bombing attack on Ostende Seaplane Base on March 3rd, 1918, when many direct hits were made. The raid was carried out in spite of very adverse weather conditions. He has also shown skill and courage as a fighting pilot during many engagements with the enemy.

Flight Sub-Lieutenant M. H. FINDLAY, R.N.A.S.—For the courage and daring displayed by him as a pilot. On March 8th, 1918, whilst on patrol, he engaged an Albatros scout, firing effectively from very close range. The enemy went down completely out of control. He has also destroyed or driven down out of control many other enemy machines.

Flight Sub-Lieutenant J. M. MASON, R.N.A.S.—For consistently good work performed in the course of numerous bombing raids on enemy aerodromes. On February 18th, 1918, he obtained a direct hit on a shed of the Varsseenaere Aerodrome. On the return journey, during a fight with enemy aircraft, his control wire was shot away, but he succeeded in safely landing his machine.

Flight Sub-Lieutenant T. A. WARNE-BROWNE, R.N.A.S.,

and Observer Sub-Lieutenant F. S. RUSSELL, R.N.A.S.—For the skill and determination displayed by them on March 18th, 1918, when carrying out a reconnaissance over Bruges and Blankenberghe under heavy anti-aircraft fire. Both these officers have taken part in many reconnaissances over the enemy's lines, often in face of heavy anti-aircraft fire and attacks by hostile aircraft, and have always displayed great gallantry and determination.

Observer Sub-Lieutenant F. H. STRINGER, R.N.A.S.—For the zeal and ability shown by him as observer in many daylight bombing attacks over enemy territory, especially on February 26th, 1918, when a direct hit was made on Engel Dump.

#### *Bar to the D.S.C.*

Flight Commander C. H. DARLEY, D.S.C., R.N.A.S.—For zeal and determination in carrying out numerous night bombing raids on enemy aerodromes, docks, &c. On the night of February 18th–19th, 1918, he carried out two attacks on the St. Denis Westrem Aerodrome.

Flight Lieutenant V. E. SIEVEKING, D.S.C., R.N.A.S.—For skill and determination in attacking enemy aerodromes, docks, &c., with bombs. On the night of February 17th–18th, 1918, he carried out two bombing attacks on Bruges Docks, and on the following night he again carried out two attacks, one on St. Denis Westrem Aerodrome and one on Bruges Docks. His zeal and determination cannot be too highly praised.

Flight Lieutenant S. W. ROSEVEAR, D.S.C., R.N.A.S.—For the skill and gallantry displayed by him on March 15th, 1918, when he attacked a formation of eight enemy aircraft, destroying two of the enemy machines. This officer has destroyed numerous enemy machines and is a very skilful and dashing fighting pilot.

#### *Second Bar to the D.S.C.*

Acting Flight Commander R. P. MINIFIE, D.S.C., R.N.A.S.—For courage and daring in the face of the enemy, particularly on March 13th, 1918. On that date, when on patrol with four machines, he attacked an enemy patrol of five scouts, destroying two, whilst a third was destroyed by another officer. Acting Flight Commander Minifie has now destroyed numerous hostile machines.

#### *Distinguished Service Medal.*

P.O. A. Clark, O.N. 234540 (Po.); Air-Mech., 1st Gr., W. Naylor, O.N. F1406.

### Foreign Honours for the R.N.A.S.

It was announced in a supplement to the *London Gazette* on April 17th that the following honours had been conferred for distinguished services rendered during the war:—

BY THE PRESIDENT OF THE FRENCH REPUBLIC.

#### *Croix de Guerre.*

Wing Commander C. H. K. Edmonds, D.S.O., R.N.A.S.  
Squadron Commander C. W. H. Pulford, R.N.A.S.

BY THE KING OF THE HELLENES.

#### *Order of the Redeemer.*

#### *Commander.*

Squadron Commander R. J. Bone, D.S.O., R.N.A.S.

### French Honours for R.F.C.

It was announced in a supplement to the *London Gazette* on April 18th that the following decorations have been conferred by the President of the French Republic for distinguished services rendered during the course of the campaign:—

#### *Croix de Guerre.*

Major (temp. Brig.-Gen.) J. H. W. Becke, D.S.O., Notts. and Derby; Temp. Lieut. A. F. Britton, M.C., R.F.C.; Bt. Lieut.-Col. (Temp. Lieut.-Col.) G. W. P. Dawes, D.S.O., R. Berks and R.F.C.; Lieut. A. D. Ferguson, H.L.I., (S.R.) and R.F.C.; Capt. (Temp. Major) J. H. Herring, D.S.O., M.C., R.F.C. (S.R.); Capt. W. Kempson, R.F.A. and R.F.C.; Lieut. (Temp. Lieut.-Col.) A. C. Maund, Can. Con. and R.F.C.; Lieut. L. H. Pakenham-Walsh, Ches. and R.F.C.; 2nd Lieut. (Temp. Lieut.) J. H. Secker, R.F.C.; Temp. Capt. S. B. Smith, M.C., R.F.C.; Capt. C. W. Wise, M.C., A.S.C. (S.R.) and R.F.C.; Temp. Capt. B. E. Baker, M.C., Gen. List and R.F.C.; Lieut. (Temp. Capt.) G. B. A. Baker, M.C., R. Berks R. and R.F.C.; Lieut. (Temp. Capt.) R. M. Charley, M.C., R.F.C. (Spec. Res.); Temp. Capt. H. M. Ferreira, Gen. List and R.F.C.; Lieut. (Temp. Capt.) C. H. Gardner, R.F.A. and R.F.C.; Temp. Lieut. H. S. Goodliffe, Gen. List and R.F.C.; 2nd Lieut. (Temp. Capt.) H. B. T. Hawkins, R.F.C. (Spec. Res.); Capt. C. Mackay, M.C., Lein. R., Spec. Res. and R.F.C.; Lieut. (Temp. Capt.) F. J. Morse, K.R.R.C. and R.F.C.; Temp. Major M. H. B. Nethersole, Gen. List and R.F.C.; 2nd Lieut. (Temp. Capt.) K. R. Park, M.C., R.A. and R.F.C.; Lieut. (Temp. Capt.) A. D. Pryor, Cambs. R. and R.F.C.;

2nd Lieut. (Temp. Capt.) T. E. Salt, R. War. R. and R.F.C.; Temp. Capt. H. Turner, Gen. List and R.F.C.; Major A. A. Walser, M.C., Lond. R. and R.F.C.

#### Honours for the R.F.C.

It was announced in the *London Gazette* of April 22nd that the King has been pleased to approve of the following awards to the undermentioned officers in recognition of their gallantry and devotion to duty in the Field:—

##### *Distinguished Service Order.*

Lieutenant (Temp. Captain) W. B. FARRINGTON, Notts. and Derby. Regiment, Spec. Res., and R.F.C.—On five occasions during a period of three months he has led formations on long-distance bombing raids, in which, despite bad weather conditions, he has found and bombed his objectives with the most excellent results. All the operations in which he has taken part have proved highly successful, and his capabilities have stood out most prominently. He is a keen and most efficient pilot, and by his courage and determination has set a splendid example to his squadron.

Lieutenant (Temp. Major) W. R. SNOW, M.C., R.F.C., Spec. Res.—During a fight lasting three hours and forty minutes he successfully registered two siege batteries on a hostile battery, and observed 100 and 150 rounds respectively. On one occasion he made four trips and dropped 12 112-lb. bombs on two aerodrome objectives. He has carried out a large number of successful counter battery and trench registration shoots under exceedingly unfavourable weather conditions, and has at all times carried out his duties in a thoroughly keen and able manner, displaying a magnificent spirit of dash and energy.

##### *Bar to the M.C.*

Lieutenant (Temp. Captain) H. H. BALFOUR, M.C., K.R.R.C., Spec. Res., and R.F.C.—On three occasions during one month he has destroyed one hostile machine and driven down two others completely out of control. On one occasion, flying at a very low altitude, under extremely adverse weather conditions, he carried out a reconnaissance, in which he bombed two guns and silenced them, bombed large bodies of troops in a market square, and fired into the hangars and huts in a hostile aerodrome, several casualties being observed. He has at all times shown himself to be a leader of exceptional dash and ability, and offensive patrols led by him have constantly attacked enemy formations with marked gallantry and determination. (M.C. gazetted May 26th, 1917.)

Lieutenant (Temp. Captain) P. HUSKINSON, M.C., Notts. and Derby. Regiment and R.F.C.—During a period of six months he has destroyed two hostile machines and driven down seven others out of control. He has also, during an attack, carried out a ground patrol, flying at a very low altitude, during which he engaged a company of the enemy with machine gun fire. On a later occasion, when firing at roads from a low altitude, he received a direct hit from a shell, which carried away a portion of his machine. He, however, regained control, and landing upside down in a shell hole full of water, was suspended in the water until nearly drowned. After his rescue, he remained all day working under shell fire until he had salvaged the engine. He has at all times proved himself to be a very gallant, keen, and able pilot. (M.C. gazetted July 27th, 1916.)

Second Lieutenant G. E. H. MCELROY, M.C., R.G.A. and R.F.C.—When on an offensive patrol, observing a hostile scout diving on one of our aeroplanes, he opened fire, and sent down the enemy machine in an irregular spin out of control, when it finally crashed completely. Later in the same day he sent down another enemy machine in flames. On another occasion, when on offensive patrol, he singled one out of four enemy machines, and sent it down crashing to earth. On the same day he attacked another enemy machine, and, after firing 200 rounds, it burst into flames. On a later occasion he opened fire on an enemy scout at 400 yards range, and finally sent it down in a slow spin out of control. In addition this officer has brought down two other enemy machines completely out of control, his skill and determination being most praiseworthy. (M.C. gazetted March 26th, 1918.)

Temp. Captain J. H. NORTON, M.C., R.F.C.—While he was carrying out observation for an important artillery shoot, two hostile aeroplanes endeavoured to interfere. These he at once attacked and drove off, afterwards continuing his observations for the shoot, during which two hostile emplacements were destroyed. His dash and determination contributed greatly to the success of the operation. (M.C. gazetted May 25th, 1917.)

##### *The Military Cross.*

Second Lieutenant (Temp. Captain) J. M. ALLPORT, R.F.C., Spec. Res.—On one occasion during night flying he made four

trips during a period of four hours, dropping sixty bombs on his two objectives with excellent results. On a later occasion, whilst on photographing work, he was attacked by six enemy machines, but by skilful manoeuvring he enabled his observer to shoot down in flames one enemy machine, another falling to pieces in the air. On several occasions he has carried out his tasks of photographing hostile battery positions and calibrating our long-range batteries on their targets under the most unfavourable conditions and with the most excellent results, showing a magnificent example to the whole squadron.

Temp. Second Lieutenant W. M. BLACKIE, Gen. List and R.F.C.—When on a special reconnaissance of two small hostile works, he dived to within 300 ft. of the ground, dropped his bombs near the works and then engaged with machine gun fire a number of men who were running for cover. On a previous occasion he carried out a very successful night bombing raid under the most adverse conditions. He has always shown great determination, and has set a splendid example to his squadron.

Lieutenant F. E. BROWN, Royal Dublin Fusiliers, Spec. Res. and R.F.C.—Whilst leading a patrol of five machines, on observing four hostile scouts diving on one of our formations, he at once engaged them, driving one of them down completely out of control, while his formation dispersed the others. Later, on sighting another hostile scout, he engaged it and forced it down spinning and out of control. While returning to his aerodrome, he observed an enemy two-seater, and, though his engine was running badly and might have failed him any moment, he attacked it and drove it down in a vertical nose-dive. Previous to this he had driven down one other machine, which was seen to crash, and a third completely out of control. He is a most daring and skilful pilot.

Temp. Second Lieutenant A. K. COWPER, Gen. List and R.F.C.—Whilst leading a patrol of six machines he observed four hostile triplanes, one of which he attacked, succeeding in causing it to break up in the air. The remaining three enemy machines were destroyed by the rest of the patrol. On the return journey he encountered an enemy scout, and shepherding it by the most skilful piloting west of the lines, forced it to land undamaged on one of our aerodromes. On a later occasion, during three separate combats, he and his patrol brought down, one machine completely out of control, and two others with their observers wounded, and later in the same day three other machines completely out of control. Previously to this he has assisted in destroying six other enemy scouts, displaying at all times the greatest courage and determination.

Second Lieutenant (Temp. Lieutenant) C. R. DAVIDSON, H.L.I. and R.F.C.—He forced a hostile aeroplane to land, and, descending to a low altitude, despite heavy rifle fire, shot down one of the occupants as he was escaping from the machine. On two later occasions he forced an enemy machine to land, and drove down another, which was last seen diving into country in which it was impossible to land. Finally, though his ankle was fractured by a bullet during an air combat, he landed without injury either to his observer or his machine.

Temp. Lieutenant A. W. HAMMOND, R.E., attached R.F.C.—When acting as observer on photographic work, though his machine was attacked by six enemy aeroplanes, he with great coolness shot down two of these. On two later occasions a large number of hostile battery positions were photographed, engaged and successfully silenced, as well as some of our long range batteries calibrated on hostile targets. The eminently satisfactory manner in which all these tasks were accomplished is due to this officer's keenness, conscientiousness, and devotion to duty.

Temp. Second Lieutenant E. W. A. HUNT, Gen. List and R.F.C.—Whilst carrying out a bombing raid on an enemy aerodrome, on being attacked by twenty hostile machines, he engaged a hostile scout at close range and drove it down. On an earlier occasion he attacked an enemy scout. He has carried out many most successful night bombing raids, dropping his bombs with good effect on trains and aerodromes, and attacking troops and transport with machine-gun fire from low altitudes. He has shown the greatest determination and enterprise under the most difficult conditions.

Temp. Second Lieutenant D. F. HURR, Middlesex Regiment, attached R.F.C.—While he was on a special reconnaissance his machine was attacked when he was at a height of 5,000 feet over his objective by enemy aeroplane, which he succeeded in driving off. Having descended to within 1,000 feet of the ground, he was heavily engaged by machine-gun fire which wounded his observer, who collapsed. He then descended

to within 400 feet of the ground and completed a comprehensive reconnaissance. He has at all times displayed the utmost disregard of danger and great devotion to duty.

Lieutenant (Temp. Captain) D. G. B. JARDINE, H.L.I., and R.F.C.—On two occasions when his formation was attacked by larger bodies of enemy scouts, he and his observer sent one of the enemy down in flames and two others completely out of control. During a period of three months he carried out two exceptionally long reconnaissances, during which he took a large number of photographs, containing most valuable information. His personal efforts and example are of the greatest value to the other pilots of the squadron.

Temp. Second Lieutenant C. F. KING, Gen. List and R.F.C.—On five occasions during a period of three months he has sent down four enemy machines completely out of control, and has destroyed one other. Later, under very adverse weather conditions, he carried out a low reconnaissance, during which he engaged troops in a station, causing several casualties, fired into a body of the enemy entering a village from a height of 50 feet, attacked four gun limbers, causing the teams to stampede, and finally dived into a parade of troops, who scattered in all directions. He has displayed exceptional daring and skill, which, combined with a splendid dash and initiative, have set a fine example to his squadron.

Lieutenant (Temp. Captain) T. J. C. MARTYN, London Regiment and R.F.C.—On numerous occasions during a period of five months he has reached his objectives and released his bombs with marked effect and with the most excellent results. His work has invariably been characterised by the greatest keenness, determination, and devotion to duty.

Second Lieutenant J. A. McCUDDEN, Gen. List, R.F.C.—While on patrol he attacked single-handed two enemy triplanes, causing one to dive down steeply under control and the other to crash to the ground. On the day previous to this he destroyed a hostile two-seater, besides which he has driven down one other machine, which was observed to be destroyed, and four others completely out of control. He has always displayed great courage and determination.

Temp. Second Lieutenant G. McPHERSON, Gen. List and R.F.C.—When acting as observer on a special reconnaissance, he assisted in driving off an enemy aeroplane when his machine was at a height of 5,000 feet over his objective. Having descended to within 1,000 feet of the ground, he was wounded in the head from machine gun fire, and collapsed. During the period when his pilot was descending still further to within 400 feet of the ground, he revived, and rendered further assistance in the reconnaissance, and on returning to his aerodrome was just able to make his report. He has at all times displayed the utmost disregard of danger and great devotion to duty.

Captain J. A. MIDDLETON, R.F.A. and R.F.C.—On one occasion he made two successive attacks on an enemy aerodrome, and, despite a mist and the intense activity of hostile aircraft, dropped his bombs, obtaining two direct hits on the hangars. On a later occasion, during a gale, he made two journeys to bomb enemy rest billets, obtaining several direct hits on his objectives and attacking hostile transport on the roads with machine-gun fire. He has at all times shown great courage and skill, and has set an example which has been of great value to his squadron.

Second Lieutenant (Temp. Capt.) L. MINOT, R.F.C., Spec. Res.—When leading a formation of five bombing machines, he attacked a hostile formation of 20 machines, and in the ensuing fight himself drove down two enemy machines completely out of control, whilst his observer destroyed another. Another four of the enemy formation were driven down completely out of control, and, as a result of his gallant leadership and determined action, his formation succeeded in getting back with the loss of but one machine. On a previous occasion he, in company with two other machines, attacked four of enemy who were reinforced later by 13 scouts, and, after heavy fighting, drove down one enemy machine out of control, his formation returning safely.

Captain R. N. MONTAGU-STUART-WORTLEY, Yeo. and R.F.C.—On each of three occasions, when on offensive patrol, he has attacked and brought down in flames one enemy aeroplane, in addition to which he has sent down out of control three other hostile machines. He has displayed great courage and determination as a patrol leader.

Temp. Second Lieutenant S. A. OADES, Gen. List and R.F.C.—On six different occasions during four months he has driven down three enemy machines which crashed on reaching the ground, and has destroyed two others, causing them to descend in flames. A sixth machine, after he had fired 80 rounds into it, turned over and went down spinning out of control, but owing to bad visibility it was not observed to crash. In

addition to these, he has brought down another three hostile machines out of control, and has always shown the most magnificent dash, gallantry and determination.

Second Lieutenant (Temp. Captain) E. R. H. POLLAK, R.F.A. and R.F.C.—Whilst observing a shoot on a hostile battery he was attacked by two enemy triplanes, one of which he engaged and succeeded in driving off. On the second machine attacking him, his observer being wounded and his forward machine gun being out of action, he put his machine into a spin down to within 500 feet of the ground, during which time flames began to come out of the engine. They ceased, however, when his machine was once again on a level keel, but on their breaking out again he landed his machine, and was partially successful in extinguishing them. He has always shown great coolness and determination under the most trying circumstances.

Temp. Second Lieutenant J. V. SORSOLEIL, Gen. List and R.F.C.—While on patrol with three other scouts he engaged a hostile formation of ten scouts, driving one of these down. While climbing to rejoin his patrol he was attacked by an enemy scout, upon which he opened fire at close range, bringing it down spinning, with the result that it crashed to earth. He has also driven down one enemy machine in flames, and sent another crashing to earth, where it was destroyed. His gallantry and skill have been most conspicuous.

Temp. Second Lieutenant D. A. STEWART, Gen. List and R.F.C.—On one occasion, when returning from bombing an enemy dump, he was intercepted by a formation of 30 hostile machines. He attacked the leader and shot his machine down out of control, whilst his observer shot down another enemy scout. He then fired a burst at another large scout, which dived down vertically out of control. On his observer being hit whilst engaged with another four machines, he spun down 4,000 feet and dived for our lines. Later, when on photographic duty, he was attacked by five enemy scouts, three of which were accounted for by his observer and himself. In the face of heavy odds, his courage, skill and fine fighting spirit have been most conspicuous.

Lieutenant (Temp. Captain) G. H. B. STREATFIELD, D.L.I., Spec. Res., and R.F.C.—When on photographic work, accompanied by one other machine, he attacked and drove off seven hostile scouts, finally securing some very valuable photographs. On a previous occasion, while on the same duty, he drove off a patrol of five hostile aeroplanes and then continued and completed his photography. On four other successive occasions he successfully drove off numerous enemy aeroplanes, which attempted to interfere with his work. He showed splendid pluck and devotion to duty.

Temp. Captain G. E. THOMSON, Gen. List and R.F.C.—On one occasion when testing his machine he observed a hostile two-seater machine between himself and the lines. He dived on it and fired 60 rounds at a close range, rendering the observer insensible. He then pulled up under the tail of the enemy machine, fired another 30 rounds, and observed it going down in a slow spin. He has accounted for six enemy machines, and has rendered continuous gallant and valuable service.

#### Amendment.

The following is the correct description of this officer upon whom a reward was recently conferred:—

Lieutenant R. A. AUSTIN, M.C., Aust. F.C. (M.C. gazetted March 26th, 1918.)

#### Gallant Air Work.

WITH reference to the announcement of the award of the Distinguished Conduct Medal in the Honours Supplement to the *London Gazette*, dated January 1st, 1918, the following are the acts of gallantry for which the decorations have been awarded:—

11559 Corpl. C. J. FRENCH, R.F.C.—For conspicuous gallantry and devotion to duty on many occasions, when the vicinity of his wireless mast has been heavily shelled, causing damage to the mast and aerial. In every case he has repaired the damage promptly and well, although still under heavy shell fire.

49181 Sergt. A. R. HERVEY-BATHURST, R.F.C.—For conspicuous gallantry and devotion to duty. He has on all occasions shown the greatest gallantry and resource in engaging enemy aircraft. During a combat, though seriously wounded in the knee, he brought his machine back safely by skilful piloting and landed it at his aerodrome without damage. He has always displayed a fine aggressive spirit, and has set an excellent example to his men.

Correction.—The award of the Distinguished Conduct Medal to 1753 Flight-Sergt. G. A. F. GIBSON, R.F.C., announced in the *Gazette* dated March 28th, 1918, is cancelled, it having previously appeared in the *Gazette* of March 4th, 1918.

# The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

## THE FLYING SERVICES FUND administered by THE ROYAL AERO CLUB.

THE Flying Services Fund has been instituted by the Royal Aero Club for the benefit of officers and men of the Royal Naval Air Service and the Royal Flying Corps, who are incapacitated on active service, and for the widows and dependants of those who are killed.

The fund is intended for the benefit of all ranks, but especially for petty officers, non-commissioned officers and men.

Forms of application for assistance can be obtained from the Royal Aero Club, 3, Clifford Street, New Bond Street, London, W.1.

Subscriptions.		£	s.	d.
Total subscriptions received to April 16th, 1918	12,719	3	0	
Staff and Workers of Gwynnes, Ltd. (Sixty-first contribution)	..	..	9	19
Eric L. Gandar-Dower	..	..	3	11

Total, April 23rd, 1918 .. .. 12,732 13 1

H. E. PERRIN, Secretary.

3, Clifford Street, New Bond Street, W. 1.

## THE ROLL OF HONOUR.

### Reported by the Admiralty:—

#### Previously Missing, now reported Killed.

Flight Sub-Lieut. A. J. Dixon, R.N.

#### Previously Missing, now reported Drowned.

Acting Sub-Lieut. (acting) F. A. G. Wallis, R.N.R.

#### Previously Missing, now Officially presumed to have been Killed.

Flight Sub-Lieut. F. W. Akers, R.N.  
Flight Sub-Lieut. E. A. Bennetts, R.N.  
Flight Lieut. T. G. Culling, D.S.C., R.N.  
Flight Lieut. J. F. Dixon, D.S.C., R.N.  
Flight Sub-Lieut. C. G. Duckworth, R.N.  
Flight Sub-Lieut. E. V. J. Grace, R.N.  
Flight Lieut. H. Hall, R.N.  
Flight Sub-Lieut. C. Lowther, R.N.  
Flight Sub-Lieut. J. E. Potvin, R.N.  
Flight Sub-Lieut. S. Richardson, R.N.  
Acting Flight Commander J. E. Sharman, D.S.C., R.N.  
Flight Sub-Lieut. T. R. Swinburne, R.N.  
Flight Sub-Lieut. C. H. Weir, R.N.

#### Previously Missing, now reported Prisoner in Germany.

Flight Sub-Lieut. K. D. Campbell, R.N.

### Reported by the War Office:—

#### Killed.

Lieut. F. J. Lawlor, Queb., attd. R.F.C.  
2nd Lieut. H. A. Somerville, R. Suss., attd. R.F.C.

#### Previously Missing, now reported Killed.

2nd Lieut. E. T. Baker, R.F.C.  
2nd Lieut. H. A. Dyer, R.F.C.  
2nd Lieut. A. H. C. Hoyles, H.L.I., attd. R.F.C.  
Capt. G. I. Paterson, Sask., attd. R.F.C.

#### Previously Missing, now reported Killed or Died of Wounds.

Lieut. E. K. Skelton, Can. F.A., attd. R.F.C.  
Lieut. D. C. Wright, W. Ont. R., attd. R.F.C.

#### Previously reported Killed, now reported Died of Wounds.

Lieut. F. J. Lawlor, Que. R., attd. R.F.C.

#### Accidentally Killed.

Lieut. R. E. Brooks, Queb., attd. R.F.C.  
Lieut. E. W. Burton, Aus. F.C.  
2nd Lieut. E. D. Grant, Aus. F.C.  
Lieut. J. R. Stacey, W. Ont., attd. R.F.C.

#### Previously reported Killed, now reported Died of Wounds.

2nd Lieut. L. Sell, Aust. F.C.

#### Died of Wounds.

2nd Lieut. M. Seaholme, R.F.C.

#### Previously reported Prisoner, now reported Died of Wounds as Prisoner in German hands.

2nd Lieut. R. E. Dugate, R.F.C.

#### Wounded.

2nd Lieut. A. W. Adams, Aus. F.C.  
2nd Lieut. W. A. Curtis, R.F.C.  
2nd Lieut. H. C. Deeks, R.F.C.  
Lieut. A. W. Hammond, M.C., R.E., attd. R.F.C.  
2nd Lieut. W. Hart-Smith, R.F.C.  
2nd Lieut. R. S. Herring, Lond., attd. R.F.C.  
Lieut. G. Jones, Aust. F.C.  
2nd Lieut. C. Marsden, R.F.C.  
2nd Lieut. V. E. Millington, Aust. F.C.  
2nd Lieut. W. W. McConnachie, R.F.C.  
2nd Lieut. A. A. McLeod, R.F.C.  
2nd Lieut. C. F. Palmer, R.F.C.  
2nd Lieut. G. D. Robin, R.F.C.  
Lieut. B. W. Sims, E. Lancs., attd. R.F.C.  
Capt. G. H. B. Streatfield, M.C., Dur. L.I., attd. R.F.C.  
2nd Lieut. C. F. Warren, R.F.C.  
Lieut. J. W. Wright, Aust. F.C.  
29606 2nd Class Air-Mech. V. A. Annis (Birmingham), R.F.C.

#### Previously Missing, now reported Wounded.

Lieut. T. I. Findley, Can. F.A., attd. R.F.C.

#### Previously Missing, now reported Wounded and Prisoner in German hands.

328 Sergt. H. O. Smith, M.M. (Clapham Common, S.W.), R.F.C.

#### Missing.

Lieut. C. M. Feez, Aus. F.C.  
Lieut. T. I. Findley, Can. F.A., attd. R.F.C.  
2nd Lieut. O. T. Flight, Aus. F.C.  
2nd Lieut. T. Hosking, Aus. F.C.  
2nd Lieut. A. T. W. Lindsay, R.F.C.  
Capt. G. I. Paterson, Sask., attd. R.F.C.  
2nd Lieut. A. D. Pope, R.F.C.  
2nd Lieut. V. J. Reading, R.F.C.  
407086 Corpl. F. R. Sutcliffe (Melksham), R.F.C.

#### Previously Missing, now reported Prisoners in German hands.

2nd Lieut. J. M. Allen, R.F.C.  
2nd Lieut. L. C. F. Clutterbuck, R.F.C.  
2nd Lieut. C. H. Crosbee, R.F.C.  
2nd Lieut. D. C. Doyle, R.F.C.  
2nd Lieut. C. B. Fenton, R.F.C.  
Lieut. J. A. A. Ferguson, R.F.C.  
2nd Lieut. C. H. Flere, R.F.C.  
Lieut. P. La T. Foster, R.F.C.  
2nd Lieut. G. C. Logan, R.F.C.  
2nd Lieut. G. R. T. Marsh, R.F.C.  
2nd Lieut. W. H. Nicholls, Aust. F.C.  
Lieut. J. H. Wensley, Sask., attd. R.F.C.  
2nd Lieut. C. V. Shakesby, E. Yorks. R., attd. R.F.C.  
2nd Lieut. H. J. Sparks, M.C., K.R.R.C., attd. R.F.C.  
2nd Lieut. R. H. Toplis, R.F.C.

#### Previously Missing, now reported Prisoners in Turkish hands.

Lieut. F. Hancock, Aust. F.C.  
Lieut. A. A. Poole, Aust. F.C.

#### Correction:

#### Missing.

2nd Lieut. C. Miller, R.F.C., should read 2nd Lieut. G. Miller, R.F.C.

# THE MODERN AEROPLANE.

By F. S. BARNWELL, Captain, R.F.C.

(Continued from page 421.)

NEXT to consider the properties of the wings or aerofoils whose function is to sustain the weight of the whole machine with the least possible expenditure of energy.

The shape of the section is the most important feature of an aerofoil, the next most important is its aspect ratio, and the next the form of its ends. Consider an aerofoil (Fig. 4) moving at some constant speed and attitude relative to the air; it does not matter, for the affect on the aerofoil, whether the air be still and the aerofoil in motion, or whether the aerofoil be stationary and the air flowing past it, the only important point is the relative motion between air and aerofoil. For convenience we call a line tangent to the under surface of the

It is necessary to bring in the value of the density of the air, since it decreases at any point, as the point is raised higher above the earth's surface; the density of the air at 10,000 ft. is only about .7 of what it is on the earth's surface.

These curves show how the absolute lift and drag coefficient, the lift-drag ratio, and the position of centre of pressure, vary, as  $i$  is varied. I wish to call attention to one or two points only which are important in considering an aerofoil as a working member of an aeroplane. Firstly, the lift vanishes when  $i$  is about minus  $2\frac{1}{2}^\circ$ . Secondly, the lift is at a maximum at about  $15^\circ$ , and decreases beyond this. So between  $-2\frac{1}{2}^\circ$  and  $+15^\circ$  is the total range of useful attitude, and the value of the lift coefficient at about  $15^\circ$  determines the slowest possible speed at which the aeroplane can fly. For modern wing forms it is then about .55, which means that at 50 m.p.h. the wings will support about 7 lbs. per square foot; so if the "Loading" of an aeroplane, which means the total weight divided by the number of square feet of total aerofoil area, be 7 lbs. per square foot, the slowest possible flying speed will be about 50 m.p.h. near the ground, and must be greater higher up. The value of  $i$  for maximum lift value is known as the "critical angle."

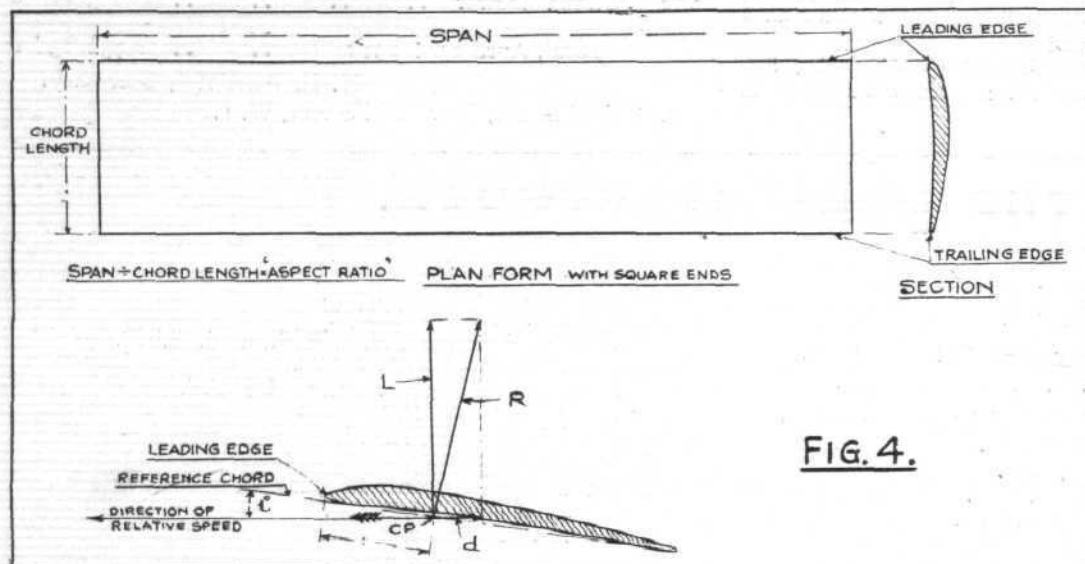


FIG. 4.

section of the aerofoil the "Reference Chord," and the angle between this "Reference Chord" and the relative direction of the air the "angle of attack" or " $i$ ." For any one value of " $i$ " there is a corresponding total reaction exerted upon the aerofoil, because it is altering the direction of the air flowing past it; we shall denote this by  $R$ . For convenience we usually consider separately the component of  $R$  vertical to the air motion, and the component of  $R$  parallel to the air motion. The vertical component we call the "Lift," and denote by  $L$ , the parallel component we call the "Drag," and denote by  $d$ . The point in which the line of action of  $R$  cuts the "reference chord," we call the "centre of pressure," and we usually define the position of this "centre of pressure" as its distance from the "leading edge" of the chord expressed as a fraction of the chord. This fraction we term the "centre of pressure coefficient." Now the vertical component,  $L$ , is the force which the aerofoil supplies to support the whole weight of the aeroplane. The horizontal component,  $d$ , is the force which must be supplied to the aerofoil; so the ratio  $L \div d$ , called the "Lift-drag ratio," is a measure of the efficiency of the aerofoil.

The reaction of an aerofoil, varies approximately as the square of the speed.

The aerodynamic laboratory supplies us with figures for lift, drag and position of centre of pressure, from experiments on small model aerofoils suspended in a current of air in a wind tunnel. For convenience in applying the figures to full size aerofoils, they are given in the form of coefficients (Fig. 5):—

- (1) Absolute lift coefficient,  $L_c$ .
- (2) Absolute drag coefficient,  $d_c$ .
- (3) Centre of pressure coefficient.

$$L_c = \frac{L}{\rho \times A \times V^2}$$

$$d_c = \frac{d}{\rho \times A \times V^2}$$

where  $L$  = lift in lbs. per square foot.  
 $d$  = drag in lbs. per square foot.  
 $\rho$  = density of air in lbs. mass.  
 $A$  = area of aerofoil in square feet.  
 $V$  = speed in feet per second.

maximum when  $i$  is about  $3\frac{1}{2}^\circ$ ; for a good modern wing form it is then about 17, which means that for every pound of thrust which is supplied to the aerofoil it can lift 17 lbs.

The lift coefficient is about .26 at  $3\frac{1}{2}^\circ$ , so the speed must be about 73 m.p.h. to support 7 lbs. per square foot at this attitude. This brings out the point that all modern aeroplanes fly, at their highest speeds, at values for  $i$  less than that for maximum lift-drag, since to retain safe landing speed we cannot go to very high loading. Nowadays machines of 7 lbs. per square foot loading are generally driven at about 120 m.p.h., which means that they are flying at about  $0^\circ$  value for  $i$ , that is, with the aerofoil chord horizontal.

Lastly, we note that practically throughout the range of useful attitude, an aerofoil by itself is instable. As  $i$  increases the centre of pressure moves forwards, as  $i$  decreases it moves

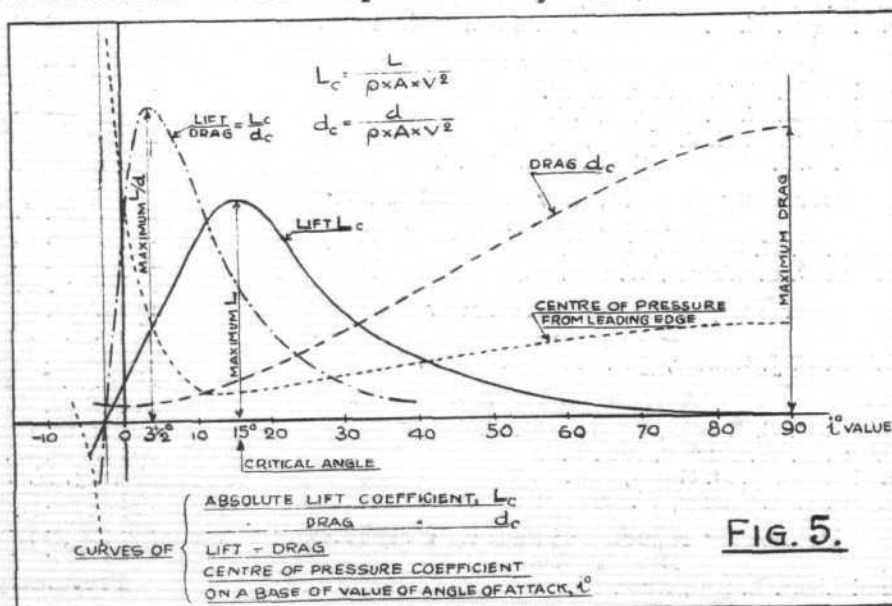


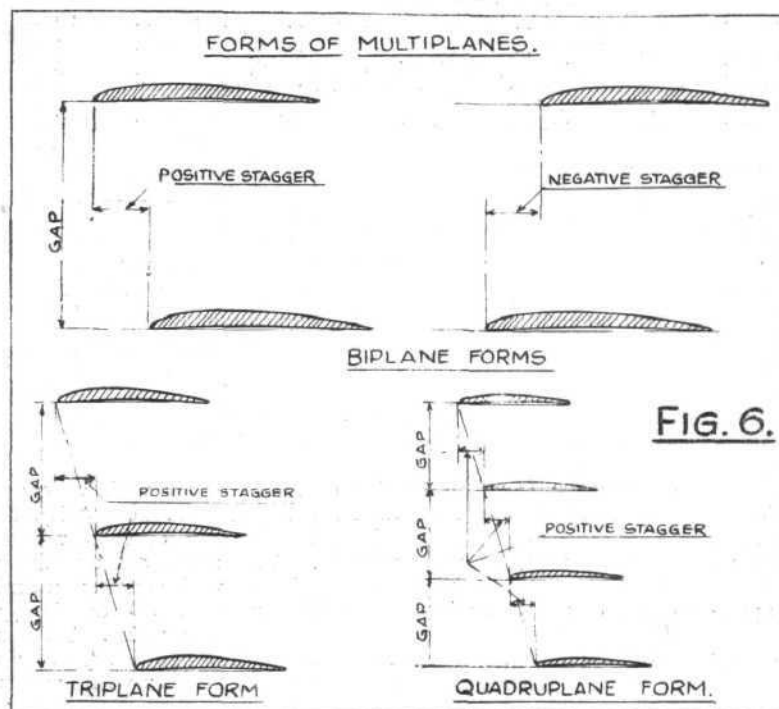
FIG. 5.

backwards. At  $0^\circ$  the centre of pressure is back at about .55 of the chord length from the leading edge, at  $14^\circ$  it is right forward at about .28 of the chord length from the leading edge. When  $i$  is zero,  $L$  has still a considerable value, and  $d$  is at its maximum value. When  $L$  is still positive but is

infinitely near to zero the centre of pressure has moved infinitely far *behind* the aerofoil. On an infinitely small further decrease of  $i$ ,  $L$  becomes negative, but of value infinitely near zero, and the centre of pressure has moved infinitely far *ahead* of the aerofoil.

I apologise for talking in such alarming terms as infinitives, but I wish to emphasise this enormously great movement of the centre of pressure of an aerofoil very near its attitude for zero lift. Of course, though the *leverage* is very great, the *force* is very small, so the *moment* is not very large.

Rounding off the ends of the aerofoil, in plan view, somewhat increases the efficiency, since a turbulent or eddying air flow is set up at a sharp corner and power is wasted in so doing. Altering the aspect ratio has a variety of effects upon the properties of an aerofoil. Speaking broadly, the higher the aspect ratio the greater will be the maximum lift value per square foot, and the greater maximum lift-drag value, but for very small values of  $i$  the lift-drag ratio seems to be quite as good for an aspect ratio of about 5/1 as for any other.



Nearly all modern aeroplanes are multiplanes, that is, they have two, three, or even four aerofoil surfaces more or less superposed (Fig. 6). The vertical distance between any two superposed aerofoils is called the "gap," whilst the distance that the leading edge of one of these aerofoils is ahead horizontally of the other is termed the "stagger"—"positive stagger" if the upper aerofoil is ahead of the lower, "negative stagger" if the lower be ahead of the upper.

In a biplane form, a pair of superposed aerofoils, the lower one is less efficient than the upper; in a triplane form, three superposed aerofoils, the lowest aerofoil is of about the same efficiency as that of a biplane form, and the centre aerofoil is slightly less efficient still; in a quadruplane form, four superposed aerofoils, the lowest is of about the same efficiency as that of a biplane form, whilst the two centre aerofoils are both about as efficient as the centre aerofoil of a triplane. Thus broadly, the greater the number of superposed aerofoils, the smaller will be the maximum lift value per square foot and the lower the maximum lift-drag value.

But at very small values for angle of attack, the lift-drag ratio is generally better for the multiplane form than for the monoplane form, and the critical angle slightly *increases* as the number of superposed aerofoils is increased. So for an aeroplane requiring a great range of speed, a biplane or triplane (quads are still rather dark horses) is a better form than a monoplane; whilst for maximum efficiency at *any one* speed the monoplane form is the best.

Generally, the greater the number of superposed aerofoils, the smaller will be the chord length and the higher the aspect ratio of each of such aerofoils. Small chord length means small shift of centre of pressure, as this is proportional to chord length, and therefore allows of small tail plane for stability, as we shall see later. A multiplane form usually possesses a great total depth of girder compared to its span, and this means a lighter aerofoil structure for the same strength to resist the stresses due to lift. It must be noted, however, that for the stresses induced by drag, the greater the number of superposed aerofoils the weaker do they tend to become, because the depth of girder to resist this direction of applied force (that is, the distance between the front and rear main spars of such aerofoils) usually becomes smaller compared to the span.

As regards stagger. Positive stagger tends to increase the maximum lift slightly, and also the maximum lift-drag ratio. Moreover, in a positively staggered biplane form the lower aerofoil is working in a slight down draught from the upper aerofoil, which means that its angle of attack is *virtually slightly less* than that of the upper. Now in a system of two aerofoils, one of which is *ahead* of the other—if the virtual angle of attack of the rear aerofoil be less than that of the front, the tendency is to decrease the shift of centre of pressure of the total reaction on the system. The same applies of course to triplane and quadruplane forms. Positive stagger, therefore, tends to allow of a smaller tail plane.

Negative stagger tends to produce, generally speaking, the opposite results to positive. In neither case, however, is the difference produced by stagger of really serious amount, unless we go to values of stagger which are hardly practicable for structural reasons. Positive stagger tends to *increase* the stresses in the aerofoil structure, slight negative stagger tends to decrease them. In other words, for the same strength, positive stagger tends to *increase the weight of the aerofoil structure*, slight negative stagger to decrease it.

A biplane or multiplane structure is held together by compression struts, usually of solid spruce, and by tension wires. The tension members in modern aerofoil structures are generally in the form of what are known as R.A.F. wires. These are formed from solid steel rod of circular section, of about 60 tons per square inch, ultimate tensile strength; they are swaged to a flat elliptical section for their entire length except a few inches at each end, these ends being threaded for attachment. This form of tension member gives an extremely low drag value compared to its strength.

As regards gap value, naturally, the greater the gap value, the less the aerodynamic effects, already noted, due to a superposed form. Structurally, large gap means deep girder, and this, for the same strength, means lighter wing spars, lighter tension but heavier struts, and higher strut drag. Modern practice is to keep gap about equal to chord length; taking all considerations into account there is usually little to be gained by departing far from this value.

(To be continued.)

#### To Assist Disabled Soldiers and Sailors.

RECOGNISING that the average disabled man has not a sufficient pension to keep him when discharged from the Army, the employees of Messrs. Wm. Cole and Sons, of 235, Hammersmith Road, W.6., have started a scheme which it is hoped will become a national affair. The idea is that all who can afford it should contribute 3d. per week until the end of the war, and that the money subscribed should be distributed through local committees in each borough or district. Any official appointed must do the work voluntarily in order that every penny subscribed shall go to the sailors and soldiers and their dependants. Messrs. Wm. Cole and Sons have opened the fund with 100 guineas, and every one of their workers has agreed to subscribe the necessary 3d. It is hoped that the example will be largely followed, for, after all, a little practical help is worth a great deal of sympathy. We refer to the matter in our leaders on page 443.

#### The Friedrichshafen Disaster.

ACCORDING to later information received in Paris the fire at the Zeppelin airship works at Friedrichshafen now used for building the F.F. bombing machines would appear to have been started by the explosion of a benzine reservoir, which may have been the result of carelessness. The enemy certainly appears to have sustained a considerable loss, and the reconstruction of works, similar to those he has lost, will take several months. The story that the fire was the result of an air raid is not confirmed; in fact it is stated that the bad weather would have been an obstacle to any such enterprise.

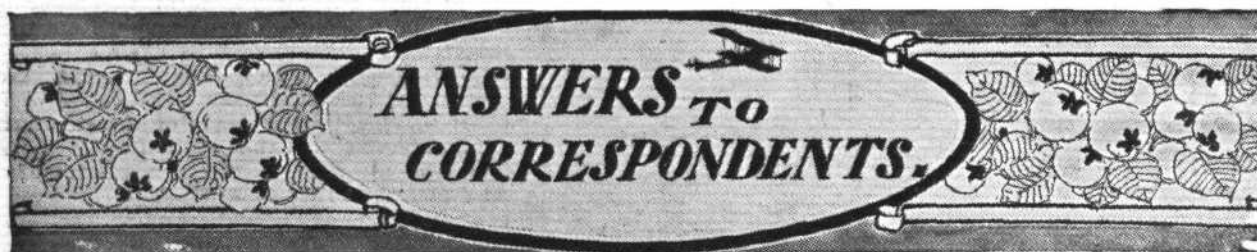
THE following is the official German version of the catastrophe:—"On the evening of April 13th a fire broke out at the Friedrichshafen yards, involving also a former Zeppelin hangar. The fire was quickly subdued, and the damage is slight. Work at the yard continues without interruption."

# R.F.C. HOSPITAL "VOCALIAN FUND."

AN appeal was made by us last week for the necessary funds to supply, upon the request of Surgeon Graeme Anderson, R.N., the presiding surgeon at the R.F.C. Hospital at Hampstead, an Æolian Vocalian cabinet gramophone for the use of the maimed fighting men of the Royal Flying Corps who are helplessly lying there, seeking convalescence. These are some of the men who have so largely contributed to ensure protection to our families and homes in England, and who have reckoned their own lives as nothing against the stakes at issue. There is little enough that those who thus remain in security in "Blighty" can do directly in return, except when an opportunity like the present offers to help fill the monotonous void which must necessarily be theirs for a more or less prolonged period, until such time as, in many cases, they are ready to once again cross the Channel and do battle against the Hun in the air, upon our behalf.

The cause should not require special pleading. Rather should there be a plethora of funds to secure the desired instrument, the cost of which, including a good selection of records, is but £50. We would, therefore, ask those who contemplate joining in this good work to send along their contributions in shillings—whether the amount be a single shilling or multiples of that useful coin. Every addition is welcome. Remittances should be addressed The Editor of "FLIGHT," 36, Great Queen Street, W.C. 2, and marked "R.F.C. Hospital Fund."

	Shillings.
Amounts already acknowledged .. ..	105
New Subscriptions—	
B.S. .. ..	10
G. Buyster .. ..	5
Edith Watson, G. de H. S., 3s. each .. ..	6
Shillings—W. Bailey, D. Hayward, A. Hayward, A. Coe, V.J., T. M., J.P., C.M.P... ..	8



## Notice to Correspondents in General.

FULL particulars regarding the conditions of service in the Royal Air Service were given in "FLIGHT" of April 11th.

Application to join as a cadet should be made in letter form, stating full personal particulars, to the R.A.F. Reception Depot which is nearest to the registered address of the applicant.

Applications for enlistment should be made personally or by letter, stating full particulars, including age and trade to the R.A.F. Reception Depot which is nearest to the registered address of the applicant.

Boys are enlisted from time to time for long service only. They should be Class A and between the ages of 15 and 17 years. Applications should be made as above.

No person is eligible for enlistment into the Royal Air Force unless he is a natural born British subject and the son of natural born British subjects.

The Royal Air Force Reception Depôts are:—

- 40, Upper Brook Street, Mayfair, London, W.1.
- 8, Tyndall's Park Road, Bristol.
- 12, Newport Road, Cardiff.
- Carlton Chambers, Paradise Street, Birmingham.
- Midland Bank Warehouse, King Street, Nottingham.
- 117, Mount Pleasant, Liverpool.
- 6, Portland Crescent, Leeds.
- 10, Sydenham Terrace, North Road, Newcastle-on-Tyne.
- 9, Somerset Place, Sauchiehall Street, Glasgow.

**M. M. (Sidmouth).**—With regard to British identification marks, the rings have the centre red and the outer circle blue. On the rudder the red is nearest the trailing edge and the blue against the rudder post.

**W. R. H. D. (Newark).**—The machine to which you refer is apparently a Sopwith "Kitten." We regret, however, that we are not permitted to publish any particulars of this interesting little machine.

**A. T. S. (Purley).**—Particulars of triplane combinations were published in our issue of November 23rd, 1916, a copy of which can be obtained from these offices. The price is 7d. post free. Mahogany and walnut are the woods most commonly employed in the construction of propellers.

**E. N. (Taunton).**—This machine is, we believe, a de H. 4. The "loops of wire" under the lower wings of some biplanes are wing tip skids, and serve to protect the lower wing tips when the machine is starting off or landing. This firm builds Sopwith machines. These are Sopwith "Pups."

**J. J. M. (Woking).**—The distribution of loads in a biplane

combination is, as you point out, only dealt with at comparatively great angles in the N.P.L. and Eiffel reports, whereas in the modern biplane the normal angle of incidence is frequently 0°, or very near it. The usual assumption is that the loading per sq. ft. of a biplane with equal span and chord of the two wings and with gap equal to chord is 4/7 for the top plane and 3/7 for the bottom plane. This is probably sufficiently accurate for angles above 4°, but no tests have been published lately dealing either with smaller angles or with more modern sections than those forming the subject for the earlier experiments. For stress calculations, however, an error of a few per cent. will hardly seriously affect the results, and by way of an approximate estimate we should say that the following assumption of load distribution may be made:—

Angle of Incidence.	Percentage lift upper wing. per cent.	Percentage lift lower wing. per cent.
0 ..	62	38
2 ..	55	45
4 ..	54	46
8 ..	53	47
12 ..	54	46

**E. B. (South Norwood).**—You would like to know how many engines a British rigid airship has? So would the Germans. Rain has been known to damage a propeller pretty severely. The Albatros scout does fire through the propeller.

**S. M. (Brentwood).**—We should recommend you to study "The Aeroplane speaks," by H. Barber. A copy can be obtained from the offices of "FLIGHT," the price being 7s. post free. The smallest successful aeroplane yet built is probably the Sopwith "Kitten." The lowest power of an engine fitted in an aeroplane that really flew is probably the 9 h.p. Jap. fitted to the early Avro triplane. We cannot possibly identify the machine from your rough diagram.

**H. T. W. (Westcliffe-on-Sea).**—Particulars of these machines must not be published.

**S. G. B. (Wantage).**—As disturbances in the air, "pockets" do most emphatically exist, but the word must not be taken to mean a sort of "hole in the air." Pockets or bumps are more in the nature of currents having a direction and velocity different from that generally obtaining in the particular part of the atmosphere in which the machine is flying. Records of speed, climb, and duration are not published during the war. Judging from your sketch, the machine is a Sopwith One-and-a-half strutter.

## TRADE PARLIAMENTS AND THEIR WORK.

By ERNEST J. P. BENN, Chairman Industrial Reconstruction Council.

### I—INTRODUCTORY.

THE industrial world is beginning to realise that if we are to reap the full benefits from all the sacrifices of this great war it is essential to think well ahead, and so plan our trading machinery that we shall be able to get on rapidly and smoothly when once again we resume our peaceful occupations. In thinking out arrangements for the after-the-war period we must not allow ourselves to be carried away with the idea that the war is coming to an end, or is likely to come to an end in the near future. There are some unthinking people who are inclined to dismiss reconstruction schemes with a sneering injunction to "get on with the war." These people misunderstand the whole spirit of reconstruction. They fail entirely to realise the spirit of the war itself, and they will experience a rude awakening when the war does come to an end and they find themselves in a new world brimful of new ideas, new hopes, new standards, and new conceptions. It would indeed be little short of a catastrophe if when we have spent the best of our blood and treasure in this great struggle we should be unprepared with plans for reaping the just reward of such sacrifice, and the least that those of us who remain at home can do, in justice to our fighters, is to endeavour so to arrange matters in the Old Country that when the soldier returns he may truly say that it has been worth fighting for. There are still many people, and I regret to say they exist very largely in the business class, who are hugging the fond delusion that we are going back to the manners and methods of 1914. I beg them to believe that nothing of the kind will happen. Those who had the opportunity of hearing Mr. Ernest Bevin at the inaugural meeting of the I.R.C. at the Guildhall, London, are under no misapprehension on the matter, and they will agree with me that there are only two alternatives now before the business community. Trade, industry, business, commerce—call it what you will—has either to face a revolution on a scale such as we have never experienced before, or there must be a frank acknowledgment on the part of employers as well as employed that it will be carried on in the future with very different ideas from those which have prevailed in the past. Wages and profits, which have hitherto been regarded as the only things that mattered, must be put into their proper place, and each trade must realise that it is a part of the social organism, a part of the national life, and that the nation expects from it that it will take its full share of the burdens which have come to us from the war—that it will, in fact, have to be carried on as a branch of national service, and that labour, management, capital and all parties will have to join together to see that these things are done. Thanks to the growth of trade organisation and the development of the co-operative spirit, these ideals are getting a little nearer. Twenty years ago it was the exception rather than the rule to find two men of a trade who were on speaking terms; to-day it is difficult to find a manufacturer who is

not working in close association with all his competitors. The same process has been going on in the ranks of Labour, until it may be said that the work that remains is surely no more difficult than the work which has been done. If we have succeeded in eliminating most of the follies which kept tradesmen of a kind from association with one another, surely it should be as easy to eliminate the follies which are keeping employers and employed in the same trade in two opposing camps. The work of the immediate future which centres around the Whitley Report is simply in effect to complete the process of organisation, which has now reached a remarkable stage of development.

I propose in this series of articles to endeavour to help on that process by sketching briefly in a practical way, some of the work that is urgently waiting to be done by Trade Parliaments. I shall take it for granted that the Whitley Report is accepted by the reader, and that labour and capital are joined together for every trade in a Joint Standing Industrial Council, or, as I prefer to call it, a Trade Parliament, for the benefit of that trade, and I shall endeavour to show, by discussing the work that lies before these Councils, the need for bringing them into being without further delay.

To form a Whitley Council it is necessary to define a trade, and this is, perhaps, the greatest difficulty that has to be faced. It is, for instance, agreed that glass-bevelling is part of the furniture trade and not part of the glass trade. This one illustration will suffice to show how extremely difficult is the task of demarcating industries. Having defined the limits of a trade, it then becomes necessary to find organisations of both employers and employed, whose limits are also confined within the trade, and arrange between these bodies their respective rights for representation upon a Council. It will, therefore, be seen that the formation of a Trade Parliament, or a Whitley Council, is not and cannot be simple. The definition of a trade and the drawing up of a constitution are in themselves two very big and complicated problems. When, however, we come to consider, as we shall in succeeding articles, the importance of the work which is awaiting these bodies, and the vital necessity that this work should be done, it will without doubt be agreed that no effort is too great to overcome these initial difficulties.

In conclusion it may be well to set out exactly the constitution of a Trade Parliament. It will consist first of representatives of associations only—that is to say, no individuals as such will have any rights upon it; seats will be equally divided between representatives of employers' associations and representatives of trade unions; it will, when constituted, act as the link between the Government and the trade, and will, it is hoped, take over many of the functions now exercised by Government Departments so far as its trade is concerned.

(To be continued.)

### CAPTAIN BARON VON RICHTHOFEN KILLED.

WHEN the official German *communiqué* of April 21st, announcing that "Cavalry Captain Baron von Richthofen, at the head of his trusty 11th Pursuit Flight, has gained his 79th and 80th victories in the air," was being published, this famous fighting pilot was lying dead in the Somme valley, which he described in his book as his happy hunting-ground. He had been brought down in the British lines, and was buried with military honours on April 22nd in a village near where he fell, his coffin being borne to the grave by six officers of the R.A.F., and there was a firing party of Australians. According to the *Times* correspondent, Capt. Richthofen was flying a Fokker triplane, No. 2,009, with Le Rhone engines, made in Frankfurt in March, 1918.

The official German account of the end of Captain von Richthofen, as received in Holland, says: "Captain Baron Manfred von Richthofen failed to return from a flying raid on the Somme on April 21st. According to the unanimous declarations of those accompanying him, and the observations of various spectators on the ground, Captain von Richthofen pursued an enemy battleplane to the ground. He was at a low altitude, when apparently a defect in the motor forced him to land behind the enemy lines. As the landing was effected without mishap, there was hope that Captain von Richthofen was captured unhurt. Reuter's report of April 23rd, however, no longer leaves any doubt that Captain von Richthofen met his death. Since Captain von Richthofen was the pursuer, he cannot well have been hit by his opponent in the air; he appears rather to have fallen a victim to a chance hit from the ground."

"A very interesting document, which may throw some light upon the cause which led to the death of Baron von

Richthofen has come into our hands," says Reuter's correspondent with the British Army. "It is a request from 'Group-Commander of Aviation No. 12,' who would correspond to a British corps wing commander, to the 'First Pursuit Squadron,' until Sunday last commanded by Richthofen, and runs as follows:—

"'Airman reports that it is not possible to fly over the Ancre in a westerly direction on account of strong enemy opposition. I request that this aerial barrage may be forced back in order that a reconnaissance up to the line Marieux-Puchevillers may be carried out.'

"A more convincing testimonial to our activity in the air could scarcely be conceived."

The Captain's name first appeared in German *communiqués* on February 15th, 1917, when, as lieutenant, he was said to have won his 20th and 21st aerial victories. By April 9th he was credited with 40; on September 4th with 61, and on March 27th of this year with 70. It was claimed that on April 28th, 1917, he shot down five enemy machines. He was appointed commander of the 11th squadron after he had brought down his 16th machine in the beginning of 1917, and two days later he was decorated with the *Order Pour le Mérite*. On the occasion of his 50th victory he received a letter of congratulation from the Kaiser, and during the last month he was given the Order of the Red Eagle with crown and swords.

Captain Richthofen had his first experience of aerial fighting in Captain Boelke's squadron. It may be recalled that when Captain Boelke was killed in October, 1916, he was officially credited with 38 victories, while Immelmann had only 15 to his credit when he fell in June, 1916.

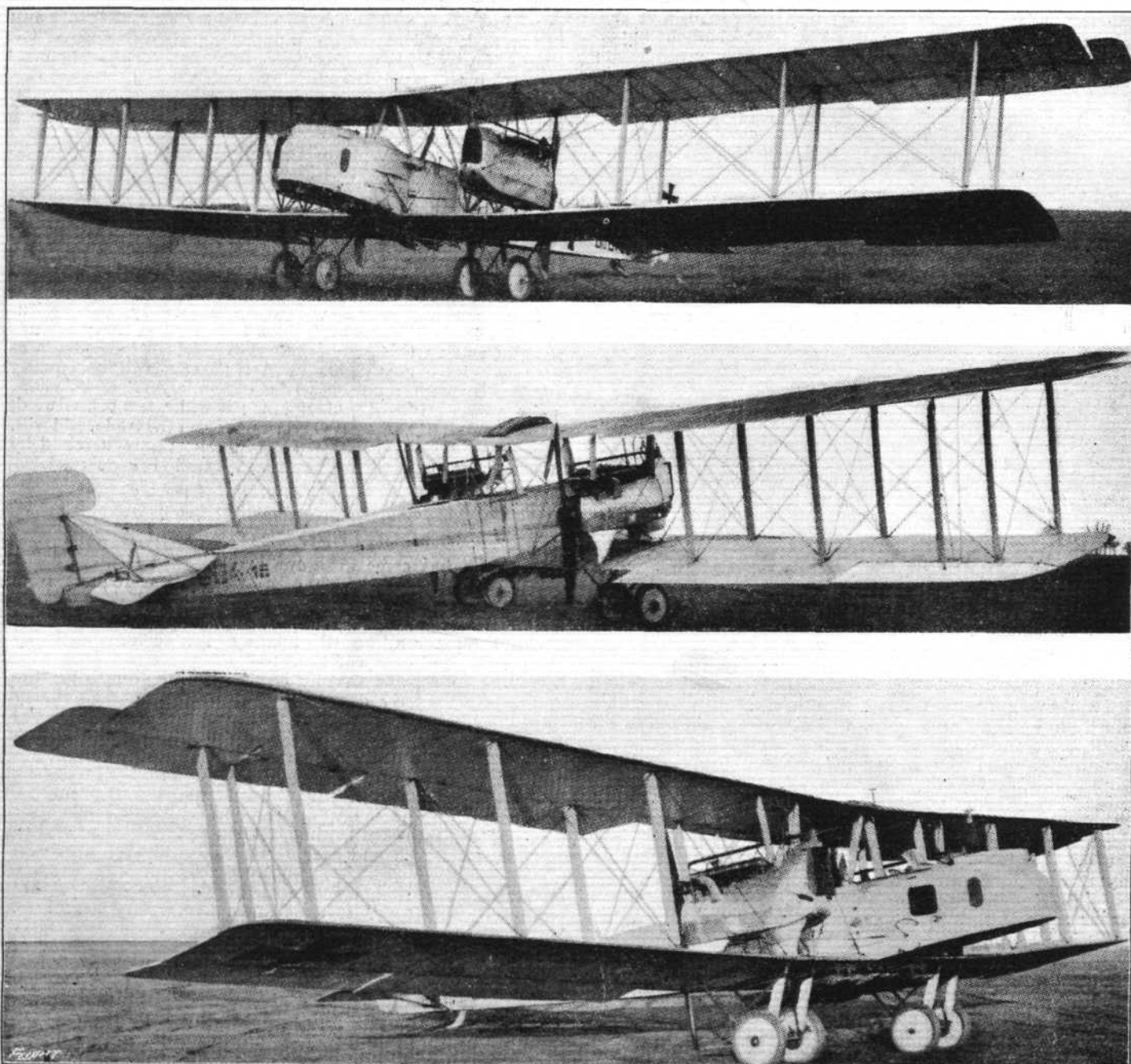
# AIRISMS FROM THE FOUR WINDS

CREDIT for the conception and putting into execution of the fog screen which enabled the successful carrying out of the heroic naval raid on Zeebrugge and Ostend stands to the name of Acting Wing-Commander Frank A. Brock, O.B.E., R.N., son of Mr. C. T. Brock, the maker of fireworks. The outstanding regret is that during the enterprise this gallant officer was killed.

SURELY anything more ludicrous in its audacity has hardly been put forth even by the Huns, than the reply of a member of the German Government in the Reichstag last week, in response to Socialist Deputy Herr Geck, who asked that an agreement should be reached with the Allies for the cessation of aerial attacks on open towns outside the war zone. Officialdom had no knowledge of a request from "the enemy Powers" so to cease, but the German military authorities

would be prepared to examine any such request, should it be received. Just now when the Allies are getting their organisation into form for really starting retaliation in earnest, would appear to be a very suitable time for them to order "cease fire." But the Allies are shockingly obstinate, once they make up their minds in any direction. This time the "Wacht am Rhine" will be no glory song, in the ordinary acceptance of that favourite Hun ditty.

EVIDENTLY, however they may profess to deride our American Allies, the Huns are not looking forward with unalloyed joy to the time when U.S. realities in the air get going with a punch. Explanations attributed to an Austrian airman prisoner as to the reasons for the cessation for some weeks now of German bombing of open Italian towns throw some light upon this point. This officer admits that there



**THREE VIEWS OF A GOTHA BOMBING BIPLANE.**—It will be seen that it differs slightly from that described in "FLIGHT" for December 27th last, in that there is little or no sweep back, and that the engine housings are considerably modified.

are two important reasons for this cessation of air raids, the chief one being that Germany has found it necessary to concentrate on the French front all her available machines, and has left none at all to assist the Austrians, whose air service is unequal, without assistance, to the undertaking of effective long-distance raids. The second reason is to be found in the fact that during the first three months of the present year the enemy losses in pilots have been so serious that both Germany and Austria realise the absolute necessity of sparing the air service as much as possible, and confining its activities to only the most essential operations, particularly in view of the fact that by about May or June they expect to find themselves faced with great air forces from America.

Whether these be true reasons or not, it is pretty certain the Huns will want all the machines they can get together to parry the blows which are likely to be rained upon them in the near future.

*Apropos* this offer of humane consideration from the German barbarians, it may be that they also have something more than an inkling of what the French have up their sleeves, to justify M. Maurice Barres in a Paris journal stating that within a very short time "we are going to produce something not bad in the way of bombardment. That is why in the Rhine Valley they are keen on limiting the employment of aeroplanes."

We wonder which side was the more surprised last week, the R.A.F. officers upon their way home upon running into three flocks of swallows at 4,000 feet, migrating northward, or the masses of these harbingers of summer when they found themselves skimming "neck and neck" with human riders of the wind.

To France again falls another pioneer achievement, the crossing of the Sahara by aeroplane. So far half the desert had been "conquered," but now, according to the *Echo de Paris* of April 20th, the full trip across has been accomplished by three machines, which left Ouargla and arrived at Salah, having completed the trip in seven hours with a solitary landing at Inifel.

LAST week a number of newspapers discovered a "new German aeroplane" which had made its appearance at the Front—the Pfalz. It may be worth noting that the 160-Mercedes-engined Pfalz machine was described and illustrated in last week's "FLIGHT."

AN evening paper, giving particulars of the present moon and its phases, concludes by remarking: "The weather during the coming moonlight should be extremely uncertain." We agree—it certainly should!

THE Ratepayers' Association at Bognor have urged on the local council that danger is caused by aeroplanes to street traffic and to people on the sands by flying "unnecessarily

low." "A most unpatriotic letter," was Mr. Staffurth's description of the communication when it came before the Council, and Mr. Smith added that he was surprised that there was not a resolution to ask the Kaiser not to advance any further. These are the men, presumably, who are managing our home affairs! A correspondent tells us that on several recent visits to that district he has seen aviators who come from training aerodromes a few miles away doing many reckless and stupid performances along the sands and over the pier, obviously "showing off" for the benefit of alien air-raid dodgers and other Bognor visitors. Perhaps if one or two valuable machines belonging to the Royal Air Force get smashed up on the front and a few casualties caused among the local inhabitants, these intelligent members of the Council will alter their views.

LAST week there was an unusual ceremony at one of the new aerodromes "somewhere on the South Coast," when the D.C.M. was presented to Corpl. H. F. Welfare, of the Northumberland Fusiliers, who is now employed there. He was twice mentioned in Despatches and has no less than 27 wounds. The whole of the officers and men of the aerodrome and the civilian staff were paraded for the occasion, and the medal was pinned on his breast by Major Greenwood, R.A.F. As the corporal was about to be married he was also the recipient of a present in the shape of a bedroom suite from the civilian staff, the gentleman making the presentation remarking that he was sorry he could not pin this also on his breast!

AN interesting article by le Sous-lieutenant Viallet, entitled "Considerations sur les Avions de Chasse," appears in *La Guerre Aérienne*. It deals chiefly with a popular British aeroplane which it describes and illustrates through the

article as "the Sopwith 'Pop'!" Is this because it is a machine which has given the Boches ginger, or is it because the useful little scout flies upwards like a cork out of a bottle?

THERE is a certain flight officer at an East Coast station, who can tell tales in the manner of Coleridge's Ancient Mariner. He drifted in the other day, borrowed a pipeful of tobacco from us, pocketed our last box of matches absently, and told us the delectable story of the young and tender commander of one of the new American submarine "chasers," who was roaming over the seven seas in search of any prey that might offer. He came in sight of a buoy, and was just about to make fast to it, when despairing shrieks from every syren within sight or hearing warned him that he was hooking up with a floating mine!

Also there was the one about the skipper of a crazy, nameless craft, resurrected from an honourable retirements in the early days of the war, who hounded an elusive sub. into shoal water, where it lay doggo. Thereupon the chief sent a man overside with a 'eavy 'ammer



**MORE AERIAL PROPAGANDA.**—"Mein Gott! Herr Kapitan, dere is yet einother of the never-to-be-sufficiently-detested English swine dropping of the leaflets!"

to thump out a message in Morse on the sub's skin:—  
 "Will you come up, or will you take a bomb?"  
 A coily emerging periscope was the answer.

NEGOTIATIONS between the British and Norwegian authorities for the establishment of a regular air-mail service between this country and Norway, referred to in last week's notes, do not appear to have got much further, as they could hardly be expected to do, having regard to the statement already made by our Postmaster-General. The Christiania correspondent of the *Aftenpost* now reports from London that Capt. Dehli, the technical expert of the Norwegian Air-Route Co., has seen the British Air Minister and the Postmaster General, both of whom seem very interested, although the impression gained is that there is not likely to be very great support for the scheme in England, and that Norway, in any case, will have to supply the airmen.

We wish this enterprise every success, as it is likely to give the lead to similar undertakings throughout the world.

How utterly right the unification of our aviation efforts is, may be gauged from the fact that President Wilson has now definitely decided on a re-adjustment of the aircraft programme, and Mr. Baker has been directed to carry it out. It is intimated that production will be put in the hands of one man, whilst another suggested step in the same direction is made in France by M. Lasies, Deputy for the Seine, who in referring in the *Matin* to the Allies' mastery of the air, which is proving itself an inestimable advantage in the present battle, advocates an inter-Allied command for aviation, with complete control over technical production.

TOUCHING upon the action by President Wilson, it would appear as if it were about time that some such action should have been taken, if the statements in the *Times* by Sir Sidney Low reflect the real state of U.S. practical "progress" after being in the war for a year, so far as immediate fighting value is concerned. Sir S. Low writes, "Those who look for American aid to relieve us from our immediate difficulties should read the accounts of the proceedings in the United States Senate on March 27th and the following days. The Senate's Committee on Military Affairs took evidence from an officer in charge of the aviation programme. This officer testified that only one fighting aeroplane had thus far been sent from the United States to France. Senator New declared that of the 12,000 combatant planes which were to

be delivered to General Pershing by July 1st not more than 37 will be deliverable by that time. Senator Lodge stated that only two cargo ships had been completed in the yards under the control of the United States Shipping Board. The same authoritative speaker said that, though the American War Department had spent six months in endeavouring to make an improved model of the French '75,' it had failed to produce an adequate weapon, so that every gun in General Pershing's lines has had to be brought from a British or a French factory.

"As these statements and reports have been widely circulated in the American Press, I am conveying no information to the enemy by repeating them. But I think it desirable that they should be known and appreciated in this country, as they can be without in the least undervaluing the effort or the spirit of our friends beyond the Atlantic. We rejoice in the moral support and the resolution of the American people; we hope that in the end their immense resources and invincible energy may make our victory decisive. But we should understand that for months to come the burden of checking and defeating the Germans' attack must continue to be borne by France and Great Britain.

In native swords and native ranks  
 The only hope of courage dwells.

"America may eventually 'save democracy'; but to save our own liberties and our own existence we must, for the present, rely upon ourselves, our own valiant Armies, our own mobilised industries, and our own man-power exerted to the last ounce of available pressure."

THE FLEDGLING. By L. W. F.

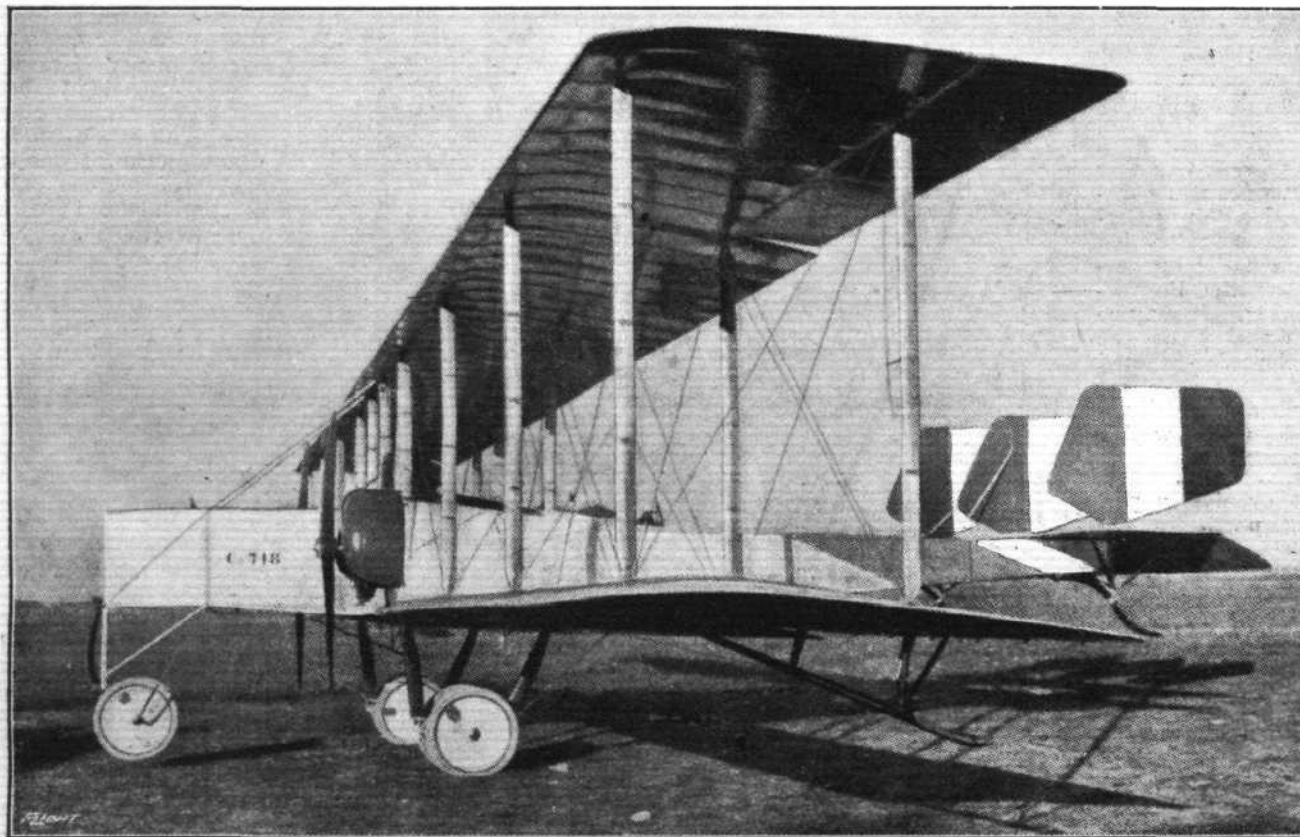
SALUTE, oh earth-crawlers! With our motto of youth and joy, we greet ye, miserable mimes of the old mud-ball!

As youth, we speak, for the call of the air echoes instinctively in the heart of youth, where there is blood of buccaneers clamouring wildly for adventure, where glows a spirit of fearless enthusiasm, and where abides iron courage to rule the tense muscles, the keen eye and the tingling nerves in the sport of all sports—the game of young gods!

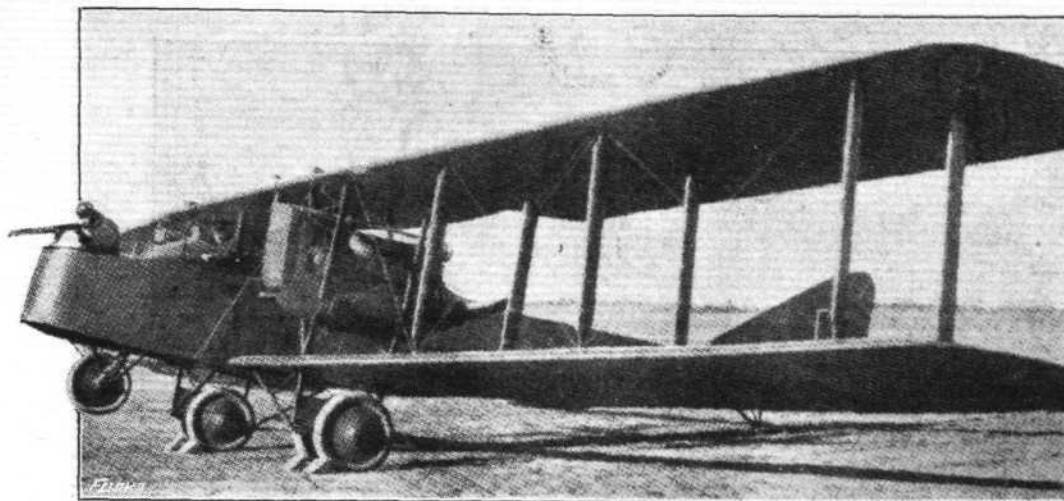
And Pan piped for a chorus! For verily, every jaunt in ether is a joyride, the lever that guides us through boundless space is the joy-stick, and in every way the life of lives is a reckless, wild, voluptuous carnival of joy!

Enthusiastic, you say?

Yes, we are bubbling and gurgling with it! Moreover, gentle reader, take warning. If you are one who chooses to sneer at children of enthusiasm, steer clear of these few



Courtesy of "Rivista dei Trasporti Aerei."  
 FROM THE SUNNY SOUTH,—One of the Caproni biplanes which are doing such excellent work with our Italian Allies.



Preparing.—A German twin-engined F.F. bomber getting ready for a flight.

lines, but far more dodge desperately all the wild young devils who are careering about space.

Our swank is unutterably boundless. And why not? Aren't we the Senior Service? The infantry are mud-dabblers, the cavalry are stick-in-the-muds, the artillery are camouflaged mud-flounders; but who skims aloft, clear of the flotsam, shell-churned fields of Flanders, throwing mud at all others, but above muck flying through clean, pure, wholesome, fragrant air?

Why us, of course!

Contempt for all the services! Long live swank in the R.A.F.—which reminds one that only a month or so ago, we of the R.F.C. hated to have wings on our machines because the R.N.A.S. had these, and none the less spurning were the amphib-aviators, who turned up snobbish noses at most evident improvements in the birdmen buses. But now all is one! Divided we stand, united in our contempt for all lubbers of the land, and above all for that fungus of the air, that sausage-shaped canteen of the atmosphere—the gas-bag!

And where is the war to be won? Indubitably beyond cavil, *in the air*; and why ask silly questions with obvious answers?

Ah, yes, Merrie Englands, we're the handy kids when it comes to packing pestiferous wars away in our little air pockets!

There's really no dimension in Euclid that can circumscribe our accomplishments and our swank. Who dropped 100,000 lbs. of food into General Townshend's camp at Kut? Who with shank's ponies or his trains, liners or motor cars has duplicated the feat of the Handley-Page that flew from London to Constantinople? Who on terra firma has taken twenty-one full-grown persons in a single biplane to a height of 7,000 feet? Why, gentle and by now, I trow, completely squelched reader, airgods, race whirlwinds and win!

Listen ye to the words of a contemporary ravista, and keep awesome silence as the aeroplane speaks: "Ah, Reader, smile not unbelievably, as you smiled but a few years past. There may be greater wonders yet. Consider that as the speed increases, so does the momentum in the mass of the aeroplane become terrific. And bearing that in mind, remember that with altitude gravity decreases. There may yet be literally other worlds to conquer. We may circle the earth in a day."

It's all helicopters and ornithopters to me what all this means; but, from the general drift, I opine Shakespeare will yet have to prod his Puck, if he doesn't wish him overtaken by us lads of the Cloudlands.

There are only two great forces to be overcome: the drag of gravity and the inertia inherent in the powers that be: and already we've made giant strides against old Gravity.

Totally smothered and I vow completely silenced reader, do you mind my obliterating you utterly with one more quotation? My fellow whooper-up, Lieutenant Middleton, writes:—"In time to come it will be a world without distance and without time, a world inhabited throughout, a Lilliputian world that can hold no darkness, no uncivilisation and no surprise. That world lies entirely within the imagination and capabilities of the designers and constructors."

Down, most miserable reader, down and worship: infantrymen, present your arms; cavalry, out with your sabres and salute; guns, boom out the salvo of honour; all ye insignificant, grovelling earth-crawlers, down—with your backs flat and your faces in the dust—down and worship me!

I'm a ground pilot! Just pipped!! Creation's cream!!!! A Fledgling!!!!!!

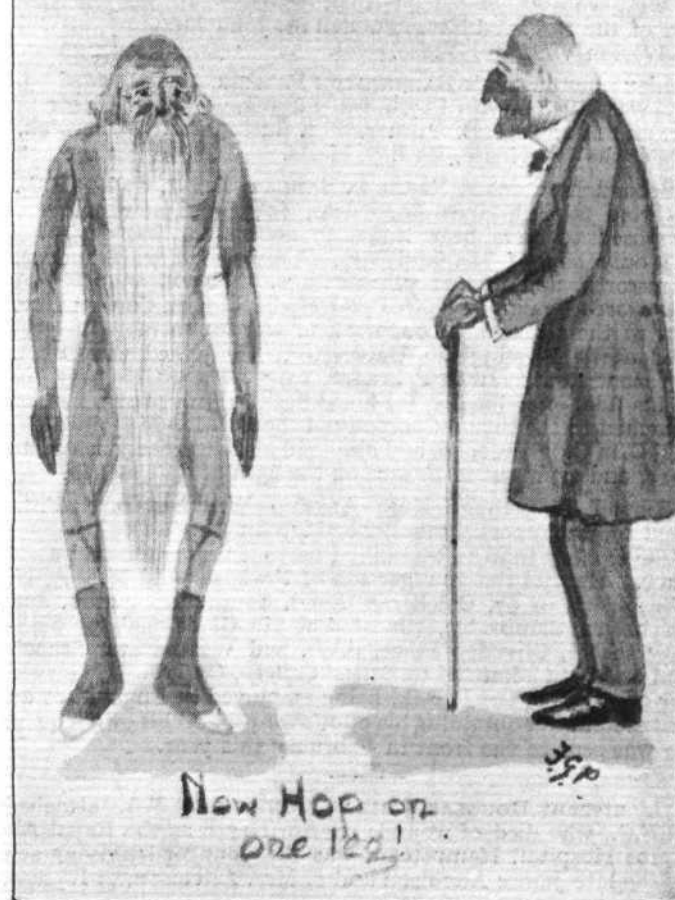
#### TEN YEARS AGO.

Excerpts from the "Auto." ("FLIGHT's" precursor and sister journal) of April, 1908. "FLIGHT" was founded at the latter end of 1908.

#### MR. FARMAN'S ACCIDENT.

After a period of remarkable good fortune and freedom from mishap of the slightest description, Mr. Henry Farman met with what might well have proved a serious fall on Friday of last week, while experimenting with his famous machine. Happily he is not seriously hurt. The accident was caused by a sudden gust of wind which caught the machine just as it was making a turn at the end of a very successful straight flight. Owing to the fact that Mr. Farman was then only about 7 ft. above the ground, there was insufficient room for him to make any serious attempt at regaining equilibrium, and the result was disaster.

#### A MEDICAL EXAMINATION IN THE NEAR FUTURE



Apropos the new Army Bill, the above is a forecast by Mr. F. G. Pitts, a St. Albans reader. (Cheers from "Cuthberts.")

# PERSONALS

## Casualties.

Captain RICHARD AVELINE MAYBERY, M.C., Lancers, attached R.A.F., who was killed on December 19th, 1917, aged 22, was educated at Connaught House, Weymouth, and Wellington College, Berks, distinguishing himself in games in both places. From Wellington he won a prize cadetship at Sandhurst, and after two terms passed out fifth, winning the first prize for field engineering, tactics, and strategy. He was gazetted to the 21st Lancers, and joined his regiment at Rawal Pindi. He served through much fighting on the Indian frontier, being part of the time A.D.C. to General Crocker. He was dangerously wounded in the fight at Shrabkadr, and being unable for some time to sit a horse he took up flying. He was sent to Egypt, and after a short time in England (where he made a record flight), he went to the front in June, 1917, and won the M.C. in July and a Bar in October.

Second Lieutenant OWEN WATKIN WYNN HARDINGE MEREDITH, R.F.C., was the only child of the late Venerable Thomas Meredith, late vicar of Wolston and Archdeacon of Singapore, and of Mrs. Meredith, of Park Road, Leamington. He was educated at Harrow and Cambridge University. He distinguished himself in all mechanical examinations in London, and was an excellent shot when going through his course of gunnery. At an aerodrome in England he made a record for high flying. He obtained his wings in July, 1917, and went out to the front in October, 1917. He was reported missing on November 20th, 1917, near Cambrai, and is now known to have been killed in action on that date, aged 24.

Second Lieutenant BOUVERIE WALTER (BUNNIE) MILDMAY, R.A.F., who was killed on April 16th, aged 19, was the only son of the Rev. and Mrs. Arundell St. John Mildmay, of Old Wolverton Vicarage, Bucks.

Lieutenant BRYAN BARRINGTON PALMER, R.A.F., aged 19, who was killed on April 17th, while flying, was the elder son of Mr. and Mrs. T. H. B. Palmer, of 1, Sutton Court, Chiswick, late of the Ivy House, Bushey, Herts.

Second Lieutenant FERREBA SADLER, D.L.I. and R.F.C., reported missing since April 21st, 1917, and now officially supposed to have been killed in action on that day, was the only son of Mr. and Mrs. Ferreba Sadler (Standon), Tamworth, and was 21 years of age. He was educated at Tamworth Grammar School and Rydal Mount, Colwyn Bay, and at the time of the outbreak of war was a metallurgical student at Birmingham University. He joined the D.L.I. as second lieutenant in February, 1915, a short time previous to his final examination for his B.Sc. In July, 1915, he was attached to the Signal Company of the D.L.I. He joined the R.F.C. in October, 1916, and obtained his wings early in March, 1917, and went out to France on the 25th of that month.

Second Lieutenant ERIC ALFRED WHITEHEAD, R.F.C., aged 19, was reported missing on March 13th. Later accounts make it clear that he was killed on that day while on patrol duty. He was the younger son of Professor and Mrs. A. N. Whitehead, of 97, Coleherne Court, South Kensington, and was born at Cambridge, educated at Mr. Gladstone's preparatory school, Cliveden Place, S.W., and Westminster School, and had been admitted to Balliol College, Oxford. He served for one year in the R.F.C., being employed in England as an instructor after obtaining his pilot's wings. At his own request he was sent to the front in February this year.

Lieutenant DOUGLAS JAMES AITCHISON, R.F.A., attached R.F.C., who died of wounds on April 17th at the Royal Air Force Hospital, Hampstead, was the younger surviving son of the late James Aitchison and of Mrs. Aitchison, of Kismet, Beckenham.

Lieutenant EDWARD JOSEPH DILLON, M.M., R.A.F., who was killed in an aeroplane accident on April 12th, aged 23, was the eldest son of Mr. and Mrs. J. T. Dillon, of 149, Walm Lane, Cricklewood. He was educated at St. Edmund's

College, Old Hall. He joined the R.A.M.C. in August, 1914, gained the Military Medal in France in 1915, and obtained his commission in the R.F.C. in August, 1917.

Lieutenant ERIC D. GRANT, of the Australian F.C., who was killed on April 4th by the fall of his machine to earth, was the eldest son of the late Mr. Alexander Grant, of Melbourne, well known in Australian business and mining circles, and Mrs. Grant, at present living at Lindis Court Hotel, 249, Cromwell Road, S.W. At the time of his death he was engaged as an instructor at an Australian aerodrome. He was regarded as one of the most resourceful and intrepid aviators, and gave promise of brilliant work at the front, where he was about to proceed. Lieut. Grant was only 20 years of age.

Captain JOHN NIGEL MACRAE, R.A.F., who was killed in a flying accident on active service on April 11th, aged 24, was the younger son of Stuart MacRae and Mrs. MacRae, of Handley House, Newark. He was educated at Messrs. Carson and Sams, Brighton, and at Malvern College. At the outbreak of war he was in the Sherwood Rangers, Yeomanry, which he left shortly afterwards to join a battalion of the Black Watch commanded by his uncle, Colonel MacRae-Gilstrap, of Eilean Donan. He had for a long time wished to fly, and in October, 1915, he joined the R.F.C. He got his wings on February 1st, 1916, and went out to France the following month for eight months. He was gazetted flight commander in January, 1917, and after instructing in England for 14 months again went to the front on March 5th last.

Lieutenant HARRY ESTCOURT ROBINSON (ROBBIE), R.A.F., who was killed on April 21st, in a flying accident in Yorkshire, aged 19, was the son of Mrs. Venetia Jefferson, of Drayton House, Colebrooke Avenue, West Ealing, and of the late Major James Estcourt Robinson, East Lancashire Regiment.

Major and Squadron Commander CUTHBERT ROGER ("TOBY") ROWDEN, M.C., Worcestershire Regiment and R.A.F., who was accidentally killed while flying in Essex on April 20th, aged 21, was the only son of A. Roger Rowden, Hillend, Eastnor, Ledbury, and husband of Frances Rowden, (née Jobson).

## Married.

Colonel HENRY STUART EBBEN, O.B.E., Air Staff, was married on April 17th, at St. Stephen's, Kensington, to GRACE HENRIETTE, eldest daughter of Mrs. SPANIER, of East London, S. Africa, and the late Mr. L. Spanier, of Port Elizabeth, S. Africa.

Captain HUGH FANSHAWE GLANVILLE, R.A.F., younger son of Rev. O. F. Glanville, of South Brent, Devon, was married on April 20th, in London, by licence, to BEATRICE GERTRUDE, widow of LIONEL C. H. SAVORY, of Dibden, Southampton.

On April 17th, at Trinity Wesleyan Church, Southport, Captain ALAN GOODFELLOW, R.A.F., son of Mr. and Mrs. B. Goodfellow, of Birkdale, and grandson of the late Reuben Spencer of Manchester, was married to CHRISTINE MARY, daughter of the late JOHN BOSTON and Mrs. BOSTON, of Birkdale, and grand-daughter of the late James S. Sutcliffe, of Bacup.

Major ELGIE BLYTH JEFFERSON, R.A.F., son of Mr. and Mrs. Jefferson, of Ballahott, Isle of Man, was married on April 17th, at the Parish Church, Neston, to MURIEL, eldest daughter of Mr. and Mrs. HOLLAND CHESHIRE, of Hallwood, Neston, Cheshire.

Lieutenant J. MILLER-WHITFIELD, R.E., attached R.A.F., of Toronto, Canada, was married on the 18th April, at Christ Church, Broadway, Westminster, to NANCY ADELE, daughter of Mrs. W. H. BYRNE, of Ealing.

## To be Married.

A marriage has been arranged and will take place on May 16th, between Captain JOHN CRAWFORD MATTHEW HAY, R.A.F., second son of Professor Matthew Hay, M.D., LL.D., of Aberdeen University, and Mrs. Matthew Hay, and MARY MONICA, second daughter of Mr. and Mrs. JOHN LIDDELL, of Sherfield Manor, Basingstoke.

# The British Air Service

"PER ARDUA AD ASTRA"

## The Royal Air Force.

*London Gazette Supplement, April 16th.*

The following appointments are made at the Air Ministry:—  
S.O., 2nd Class.—Lieut. J. B. F. Watson, and to be Temp. Major while so employed; April 1st.

S.O., 3rd Class.—(And to be Temp. Capt. while so employed):—Lieut. (Hon. Capt.) W. P. Nicholls, 2nd Lieut. H. M. Piper; April 1st.

### Flying Branch.

Major F. F. Minchin, M.C., to be Temp. Lieut.-Col. while employed as Wing Comdr.; April 5th, seniority April 1st.

Lieut. (Temp. Capt.) K. R. Park, M.C., to be Temp. Major while comdg. a sqdn.; April 9th.

To be Temp. Capt. while comdg. a Flight:—Lieut. N. Crompton; April 1st. 2nd Lieut. C. F. King; April 5th. Lieut. J. Hutchings; April 7th. Lieut. N. Comper, Lieut. A. W. Beauchamp-Proctor, Lieut. H. F. Davison; April 8th. 2nd Lieut. R. S. Bell to be Temp. Lieut. while employed as Balloon Comdr.; April 1st.

### Administrative Branch.

H. W. Davies is granted a temp. commission as Major; April 15th.

L. J. Robertson (Capt., R. Defence Force) to be Temp. Capt. while employed as Courts-Martial Officer; April 1st.

Lieut. C. E. Bagram to be Temp. Capt. while employed as Courts-Martial Officer; April 2nd.

2nd Lieut. J. F. Hewitt relinquishes his commission on account of ill-health contracted on active service; April 17th.

The following resign their commissions:—Lieut. W. MacLanachan, to resume his medical studies; 2nd Lieut. (Qrmer. and Hon. Major, ret. pay) A. Beattie; 2nd Lieut. J. H. Higginbottom; April 17th.

*London Gazette Supplement, April 19th.*

F. H. Sykes, C.M.G. (Brev. Lieut.-Col., Temp. Brig.-Gen. in Army), to be Chief of Air Staff, and is granted a commission as Maj.-Gen.; April 12th.

Col. (Temp. Maj.-Gen.) J. M. Salmond, C.M.G., D.S.O., to be Maj.-Gen.; April 2nd.

### Flying Branch.

Maj. (Temp. Lieut.-Col.) R. R. Smith-Barry to be Col.; April 17th.

Lieuts. to be Temp. Capt. while employed as Capt. (Flying):—R. T. Fagan; April 2nd. C. G. D. Napier, J. D. Hewitt, (Hon. Capt.) J. Gamon; April 4th. D. R. Maclaren; April 6th. J. E. Hibbert, M.C., H. B. Pett; April 9th. A. E. Palfreyman; April 12th.

### Administrative Branch.

To be Temp. Majs. while employed as Admin. Majs.: Capt. K. D. Abercromby, Capt. L. Newman, Lieut. (Temp. Capt.) J. Inwood; April 1st.

Lieut. J. Rickie to be Temp. Capt. while employed as Admin. Capt.; April 17th.

2nd Lieuts. to be Temp. Lieuts. while employed as Admin. Lieuts.:—G. Hewlett, W. Burrows, E. P. Spriggs, L. E. Carter; April 1st.

## Royal Flying Corps (Military Wing).

*London Gazette Supplement, April 15th.*

The following appointments are made:—

**Flight Commanders.**—From Flying Officers, and to be Temp. Capt. while so employed:—Lieut. M. R. Jennings, S.R.; March 20th, seniority from May 27th, 1917. Temp. 2nd Lieut. A. K. Cowper, Gen. List; March 24th. Capt. (Temp. Major) H. F. Glanville, W. Ind. R., reverts from a Sqdn. Comdr., and relinquishes his temp. rank; March 19th, seniority from Sept. 25th, 1915.

**Flying Officers.**—Lieut. K. C. Beddy, Hamps. R. (T.F.) (since accidentally killed), and to be secd.; Nov. 28th, 1917. Lieut. O. H. Gossip, Cam'n. Highrs., (T.F.), and to be secd.; Dec. 1st, 1917. Temp. 2nd Lieut. J. Drew, Gen. List; Jan. 7th. Temp. 2nd Lieut. A. T. D. Glaholm, attd. Durh. L.I., and to be transf. to R.F.C. Gen. List; Feb. 24th. Lieut. C. W. D. Bell, Hrs., and to be secd.; Feb. 28th. Temp. Lieut. W. T. Simpson, Gen. List; March 4th. From Flying Officers (Obs.).—Temp. 2nd Lieut. R. T. Jones, Gen. List; March 7th, seniority Jan. 15th, 1917. Capt. J. A. Le Royer, M.C., Quebec R., Canadian Exped. Force, seniority March 25th, 1917; Temp. Lieut. J. W. Ross, Gen. List, seniority April 15th, 1917; March 8th. Lieut. A. B. Bennett, Sea. Highrs., S.R., seniority Aug. 5th, 1917. 2nd Lieut. A. E. Rowell, Norf. R. (T.F.), and to be secd.; Temp. Capt. T. Phillips, attd. R. Lanc. R., and to be transf. to R.F.C. Gen. List; March 9th. Capt. R. C. Grant, Sco. Rif., S.R., and to be secd.; Temp. Lieut. A. P. Darlow, Lan. Fus., and to be transf. to R.F.C. Gen. List; March 10th. Capt. C. C. Snow, Yorks. L.I. (T.F.), and to be secd.; 2nd Lieut. A. S. F. Reeves, Yeo. (T.F.), and to be secd.; March 11th. Temp. 2nd Lieut. E. Nathan, attd. D. of Corn. L.I., and to be transf. to R.F.C. Gen. List; Lieut. S. Carlin, M.C., R.E. (T.F.); 2nd Lieut. G. H. Dykes, Lan. Fus., from a Flying Officer (Obs.), seniority Feb. 25th, 1917, and to be secd.; March 12th. Lieut. S. W. Keen, M.C., Lond. R. (T.F.), and to be secd.; Temp. 2nd Lieut. A. G. Donald, attd. High. L.I., and to be transf. to R.F.C. Gen. List; March 13th. Temp. 2nd Lieut. D. D. Campbell, attd. Rif. Brig., and to be transf. to R.F.C. Gen. List; March 15th. Lieut. G. C. Judd, R.F.A., S.R.; March 16th. And to be transf. to R.F.C. Gen. List:—Temp. 2nd Lieut. J. Haygarth, attd. S. Lan. R.; Temp. 2nd Lieut. C. W. Mercer, attd. Hamps. R.; March 17th. Lieut. V. R. S. White, M.C., S. Staff. R., S.R., from a Flying Officer (Obs.); March 18th, seniority April 28th, 1917. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—T. W. B. Hinch; Jan. 6th. J. J. Hickey; Jan. 15th. D. M. McBeath, R. L. Rideout; Jan. 17th. W. F. Hay; Jan. 21st. M. Lee; Jan. 22nd. E. W. Hellier; Jan. 23rd. C. J. Devlin; Jan. 27th. E. F. Crabb; Jan. 30th. A. W. Young; March 1st. J. M. Brown; March 2nd. A. A. Powell; March 3rd. V. Kennedy; March 4th. J. W. Coggs; March 8th. L. Daly, F. C. Daniel, P. F. Balch, T. H. Broadley, C. S. Booker, T. B. Bradley, W. J. McLean; March 9th. S. D. Evans, T. Rawsthorne, H. T. Townsend, L. K. W. Barrett; March 10th. A. F. Forsyth, P. E. Tyson; March 11th. G. R. Stafford, R. J. F. Wells, E. Stanton; March 12th. S. L. Russell, B. O. M. Linford, C. G. S. Shields, A. Baker; March 13th. G. L. Dobell, C. E. Hurst; March 14th. P. A. Carrie; March 15th. J. R. R. Harvey, J. O. MacAndrew, Q. W. Bannister; March 16th. H. A. Zinn, F. C. Stanton, H. W. Russell, D. S. Atkinson, F. S. Williams; March 18th. The name of Temp. 2nd Lieut. R. G. Malcom, Gen. List, is as now described, and not as in the *Gazette* of July 4th, 1917, and subsequent *Gazettes*. The appointments of the following Temp. 2nd Lieuts., Gen. List, notified in the *Gazette* of Oct. 31st, 1917, are ante-dated as follows:—G. A. Birks, to Aug. 15th, 1917; J. H. Acton, to Aug. 21st, 1917.

**Adjutant.**—Temp. 2nd Lieut. H. Waddington, Manch. R., to be transf. to R.F.C. Gen. List, and to be Temp. Capt. (with pay and allowances as Lieut.) while so employed; Feb. 21st.

**Park Commander.**—Capt. (Temp. Lieut.-Col.) F. A. G. Noel, S.R., from a Special Appointment (graded as a Depot Comdr.) to relinquish the rank of Temp. Lieut.-Col. and to revert to the rank of Temp. Major while so employed; Jan. 17th, seniority June 8th, 1917.

**Special Appointment (graded as a Park Commander).**—Lieut. (Temp. Capt.) J. Pearce, K.O. Sco. Bord., from an Equipment Officer, 1st Cl., and to be Temp. Major while so employed; March 18th.

**Equipment Officers, 2nd Class.**—From the 3rd Cl.:—Lieut. J. R. Frankish, S.R.; Oct. 30th, 1917. Temp. 2nd Lieut. F. Adams, Gen. List, and to be Temp. Lieut. while so employed; March 1st. The appointment of Temp. Lieut. S. T. Smith, Gen. List, notified in the *Gazette* of Jan. 9th, is ante-dated to Nov. 1st, 1917. 3rd Cl.—Temp. 2nd Lieut. (on prob.), Gen. List, and to be confirmed in their rank:—P. Rourke, A. V. Baker, W. F. Chauncey, E. H. Flook, E. L. Hoffman, B. G. Imlach, C. MacK. Ruthven, S. S. Dungey, H. Reynolds, E. H. Wall, H. S. Whitley; March 6th.

### Schools of Instruction.—School of Technical Training.

**Assistant Instructor (graded as an Equipment Officer, 2nd Class).**—Temp. 2nd Lieut. A. Patterson, Gen. List, an Equipment Officer, 3rd Cl., and to be Temp. Lieut. while so employed; March 21st.

**General List.**—Temp. 2nd Lieuts. to be Temp. Lieuts.—A. W. Reynell; July 1st, 1917. S. Mills; Jan. 30th. D. Armitage; March 10th. Temp. Lieut. V. King, from R. Mar., to be Temp. Lieut.; March 11th, seniority from Nov. 29th, 1917. Temp. 2nd Lieut. J. Allan is dismissed the service by sentence of General Court-martial; March 21st. The notification in the *Gazette* of April 2nd regarding Temp. 2nd Lieut. R. V. Waters is cancelled; 3rd Cl. Air Mech. H. Pender, from R.F.C., to be Temp. 2nd Lieut.; Jan. 11th. To be Temp. 2nd Lieuts. (on prob.):—J. C. L. Mercer; Dec. 19th, 1917. H. N. Munro; March 17th. Temp. Sgt.-Major W. T. Sharp, from R.F.C., 1st Cl. Air Mech. H. E. Shaw, from R.F.C., Sgt. F. A. Skoulding, from R.F.C., Sgt. H. E. Taylor, from R.A.M.C., Pte. W. R. Westland, from Field Amb. (T.F.), Temp. Sgt.-Major W. K. Yarnold, from R.F.C., Sgt. R. D. Smith, from R.F.C.; March 27th. E. A. O. Hobart-Hampden; March 30th.

*London Gazette Supplement, April 16th.*

The following appointments are made:—

**Wing Commander.**—Lieut. (Temp. Major) E. L. Conran, M.C., Lrs., from a Sqdn. Comdr., and to be Temp. Lieut.-Col. while so employed; March 30th.

**Flying Officers (Observers).**—And to be transf. to R.F.C. Gen. List:—Temp. 2nd Lieut. A. S. Clarke, attd. K.R.R.C.; Feb. 3rd, seniority Sept. 6th, 1917. Temp. 2nd Lieut. E. R. V. Collett, Glouc. R., seniority Sept. 24th, 1917; March 14th. Seniority Nov. 30th, 1917:—2nd Lieut. A. E. Reynolds, W. York. R. (T.F.), and to be secd.; Temp. 2nd Lieut. E. N. Mais, Br. W. Ind. R. And to be transf. to R.F.C. Gen. List:—Temp. 2nd Lieut. E. H. Tredercroft, R. W. Surr. R.; March 15th, seniority Nov. 21st, 1917. Seniority Dec. 5th, 1917:—Temp. 2nd Lieut. J. I. Bernstein, Manch. R.; Temp. 2nd Lieut. V. Dreschfeld, E. York R.; March 14th. Seniority Dec. 29th, 1917:—Temp. 2nd Lieut. N. Smith, Yorks. L.I.; Temp. 2nd Lieut. A. R. Dalby, Lan. Fus.; Temp. 2nd Lieut. F. N. Phillips, R. Dub. Fus.; March 14th. Lieut. H. A. Chippindale, R.F.A. (T.F.), and to be secd.; March 15th, seniority Dec. 31st, 1917. Temp. 2nd Lieut. (on prob.) R. Watson, Gen. List, and to be confirmed in his rank; March 14th, seniority July 30th, 1917.

**Equipment Officers, 3rd Class.**—Temp. 2nd Lieut. L. H. S. Harben, Gen. List, from a Balloon Officer; Sept. 1st, 1917. Temp. 2nd Lieut. A. G. Tremain, Gen. List, from a Balloon Officer; Sept. 4th, 1917. Temp. Capt. C. G. Carson, R.E.; Jan. 7th. 2nd Lieut. J. W. McKee, R.A., and to be secd.; Feb. 27th. 2nd Lieut. W. Mainstone, K. Ir. Fus., and to be secd.; Feb. 28th. Temp. 2nd Lieut. B. H. Hardy, attd. W. York. R., and to be transf. to R.F.C. Gen. List; March 5th. Temp. Lieut. G. R. Simpson, Gen. List, from a Flying Officer (Obs.); March 11th. Hon. Lieut. R. Hodge, from Temp. Qrmer., and to be Temp. Lieut. Gen. List; March 12th. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—P. Geach; Sept. 23rd, 1917. W. A. E. Featherstone; Jan. 1st. W. A. Baker; Jan. 19th.

**General List.**—Temp. 2nd Lieuts. to be Temp. Lieuts.—J. A. R. Buller, G. T. Dunstan, T. W. Nops (since killed in action), C. G. Rushton, J. K. Summers, T. S. Green (since killed in action), O. V. Thomas; July 1st, 1916. J. M. J. Moore; July 1st, 1917. The following, from R.F.C., to be Temp. 2nd Lieuts. (on prob.):—1st Cl. Air Mech. W. A. E. Featherstone; Jan. 1st. Sgt. A. H. James; March 22nd. Temp. Sgt.-Major N. W. B. Bovey; March 27th.

*London Gazette Supplement, April 17th.*

The following appointments are made:—

**Special Appointment (graded as a Squadron Commander).**—Lieut. (Temp. Capt.) E. Selby, S.R., a Flight Comdr., and to be Temp. Major while so employed; March 20th.

**Flight Commanders.**—From Flying Officers, and to be Temp. Capt. while so employed.—Temp. 2nd Lieut. E. T. Simpson, Gen. List; March 24th. Temp. 2nd Lieut. H. N. C. Robinson, Gen. List; March 28th.

**Flying Officers.**—Lieut. E. J. Cronin, Nova Sco. R., Canadian Exped. Force; Feb. 12th. Temp. Lieut. S. J. Morrell (Sea. Highrs.) and to be transf. to R.F.C., Gen. List; Lieut. H. F. Knight, Ind. Army Res. of Off., seniority Oct. 30th, 1916; Feb. 14th. Capt. D. H. Rylands, A.V.C. (T.F.), and to be secd.; Feb. 15th. Temp. 2nd Lieut. E. Banks, N. Staff. R., and to be transf. to R.F.C., Gen. List; Feb. 17th. Lieut. P. O. Davies, R. Dub. Fus., S.R., and to be secd.; Lieut. A. Rutherford, Durh. L.I. (T.F.); Temp. Lieut. F. G. Pool, Gen. List; Feb. 18th. Capt. E. W. Goldsworthy, Yeo. (T.F.), and to be secd.; Capt. N. J. Allgood, North'd. Fus., S.R., and to be secd.; Feb. 19th. 2nd Lieut. F. H. Sillem, Bedf. R. (T.F.), and to be secd.; March 12th. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—J. S. Wood; Oct. 13th, 1917. F. E. Robinson; Dec. 19th, 1917. R. Moore; Jan. 13th. F. W. Carryer; Jan. 19th. J. B. Bales; Jan. 20th. R. L. Hollingsworth; Jan. 26th. J. S. Morgan; Feb. 5th. G. F. Greengrove, B. E. Turner, H. Hickson; Feb. 14th. C. E. James; Feb. 17th. J. H. Waugh, A. L. Monger; Feb. 18th. I. W. Lieper, M. A. Newnham; March 12th.

**Flying Officers (Observers).**—Temp. Lieut. A. M. Morgan, R.E., seniority Dec. 30th, 1916; Lieut. H. E. Rosborough, Canadian Forestry Corps, seniority Oct. 25th, 1917; Capt. M. M. Pakenham, A.S.C., and to be secd., seniority Nov. 12th, 1917; Temp. Lieut. V. King, Gen. List, seniority Nov. 29th, 1917; March 11th. March 10th, seniority Dec. 11th, 1917:—Temp. 2nd Lieut. B. D. Bennett, attd. North'd. Fus., and to be transf. to R.F.C. Gen. List; 2nd Lieut. S. C. Eschmann, Suff. R. (T.F.), and to be secd. And to be transf. to R.F.C. Gen. List:—Temp. 2nd Lieut. C. W. Harbridge, attd. R. War. R.; March 11th, seniority Dec. 12th, 1917. Temp. 2nd Lieut. C. A. Sundry, S. Wales Bord.; March 10th, seniority Jan. 3rd. Temp. 2nd Lieut. J. H. Holland, R. Fus., seniority Jan. 3rd; March 11th. Lieut. (acting Capt.) C. G. White, M.C., R.F.A. (T.F.), seniority Jan. 20th, to relinquish his acting rank and to be secd.; 2nd Lieut. E. Dennis, Notts. and Derby. R. (T.F.), seniority Jan. 28th, and to be secd.; Temp. 2nd Lieut. (on prob.) S. Ramsden, Gen. List, seniority Feb. 7th, and to be confirmed in his rank; Temp. 2nd Lieut. V. F. S. Dunton, Gen. List, from a Flying Officer; Jan. 30th, seniority April 16th, 1917. Lieut. R. F. Millard, Bord. R., S.R., and to be secd.; Feb. 1st, seniority Sept. 21st, 1917. Lieut. C. W. H. Moller, Sea. Highrs., and to be secd.; Jan. 31st, seniority Oct. 11th, 1917. Temp. Lieut. R. C. Vaughan, M.C., Shrops. L.I., and to be transf. to R.F.C. Gen. List; Feb. 15th, seniority Oct. 22nd, 1917. Temp. 2nd Lieut. (on prob.) G. Gilham, Gen. List, and to be confirmed in his rank, seniority Nov. 4th, 1917; March 17th. Seniority Dec. 30th, 1917:—Lieut. W. A. B. Savile, R.A., and to be secd.; 2nd Lieut. G. W. Owen, R. War. R., S.R.; Temp. 2nd Lieut. C. E. B. Biens, R. Lanc. R., and to be transf. to R.F.C. Gen. List; March 18th, seniority Dec. 31st, 1917. 2nd Lieut. M. Balston, R.F.A., S.R.;

March 17th, seniority Jan. 4th. March 18th, seniority Jan. 12th.—Lieut. K. R. Anderson, L'pool. R. (T.F.), and to be secd.; Temp. Lieut. J. F. B. Ewen, Gen. List; Lieut. R. A. Varley, N. Staff. R. (T.F.), and to be secd.; Lieut. C. C. Abraham, Shrops. L.I., and to be secd.; Lieut. P. Wilkinson, North'd. Fus., S.R., and to be secd.; Lieut. F. C. Dixon, Manch. R. (T.F.), and to be secd.; 2nd Lieut. H. C. Hyde, Leic. R., S.R., and to be secd. And to be transfd. to R.F.C. Gen. List; March 24th.—Temp. Lieut. J. Hogan, A. Cyclist Corps, seniority Jan. 21st; Temp. 2nd Lieut. W. Armit, attd. K.R.R.C., seniority Jan. 28th. Seniority Jan. 29th.—Lieut. J. Chatterton, M.C., London R. (T.F.), and to be secd.; Lieut. G. H. L. Cox, N. Staff. R., S.R., and to be secd.; Temp. 2nd Lieut. G. R. Terry, Res. Rgts. of Cav., seniority Feb. 7th, and to be transfd. to R.F.C. Gen. List; Temp. 2nd Lieut. (on prob.) W. Spencer, Gen. List, and to be confirmed in his rank; March 21st, seniority Feb. 20th.

*Adjutant.*—Temp. Major E. W. H. Kennedy, Garr. Bn. Hamps. R., and to be transfd. to R.F.C. Gen. List; Dec. 6th, 1917.

*Equipment Officers, 1st Class.*—2nd Lieut. (Temp. Capt.) C. Porri, Yeo. (T.F.), from an Experimental Officer, 1st Cl. (graded as an Equipment Officer, 1st Cl.), and to retain his temp. rank while so employed; March 6th, seniority Oct. 1st, 1916.

*2nd Class.*—Temp. 2nd Lieut. W. A. Downie, Gen. List, from the 3rd Cl., and to be Temp. Lieut. while so employed; Jan. 11th.

*3rd Class.*—Temp. 2nd Lieut. (on prob.) F. A. de V. Robertson, Gen. List, and to be confirmed in his rank; Feb. 17th, 1917.

*Schools of Instruction.—School of Photography.*

*Commandant (graded as a Park Commander).*—Lieut. (Temp. Capt.) P. R. Burchall, S.R., an Equipment Officer, 1st Cl., and to be Temp. Major while so employed; March 10th.

*General List.*—To be Temp. 2nd Lieuts. (on prob.)—3rd Cl. Air Mech. H. Hickson, from R.F.C.; Jan. 17th. 3rd Cl. Air Mech. C. E. James, from R.F.C.; Jan. 20th. Pte. A. L. Monger, from A.S.C.; Jan. 21st. Ctds. to be Temp. 2nd Lieuts. (on prob.)—D. R. Evans, D. P. Fulton, A. G. White, D. K. Watt, P. C. Moynihan; March 10th. N. F. B. Adams, I. P. Aitken, O. F. Bendall, A. T. Bissell, W. Bolt, E. F. Boyce, F. B. Cox, I. B. Corey, W. T. Davies, H. H. French, L. A. Higgs, A. G. Middleton, G. W. H. Parlee, F. E. Proctor, H. D. H. Williams; March 18th.

*Staff Captain Attached to Headquarter Units.*—Temp. Major the Rt. Hon. Sir J. A. Simon, K.C.V.O., relinquishes his appointment; Jan. 29th.

*General List (R.F.C.).*—Cadet P. C. Westhotten to be Temp. 2nd Lieut.; Sept. 13th, 1917. (Substituted for Gazette notifications Oct. 9th, 1917, and March 21st, incorrectly describing surname).

*London Gazette Supplement, April 18th.*

The following appointments are made:—

*Flying Officers.*—Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—C. F. Pineau; Dec. 19th, 1917. R. C. Muir; Jan. 27th. R. J. Gilroy; Feb. 9th. G. A. Kinnmont; Feb. 20th. H. D. Coldwell; Feb. 27th. W. A. Armstrong; March 7th. J. Adam; March 9th. J. L. Brewster, A. J. Yates; March 10th. L. F. Barton, L. E. Rutherford, R. T. T. Waring, D. J. Trapp; March 11th. D. T. Forbes, L. E. Moutrie, W. J. Sinewright; March 12th. W. E. Holland, G. McHardy; March 13th. L. R. Sinclair, C. Allday, F. E. Wyatt, C. D. Darlington, H. C. McCreary; March 14th. P. E. Mercer, H. W. Walker, F. W. Jordan, B. S. Allen; March 15th. C. P. Robertson, C. S. Scobie, W. H. Bundock, W. C. Pierce; March 16th. T. C. Traill; March 18th.

*Flying Officers (Observers).*—2nd Lieut. J. Sharp, Ir. Horse, S.R., and to be secd.; March 17th, seniority Nov. 12th, 1917. 2nd Lieut. W. Skelton, R.F.A., S.R.; Feb. 6th, seniority Nov. 13th, 1917. And to be transfd. to R.F.C. Gen. List:—Temp. 2nd Lieut. P. A. Cockeram, M.C., E. Kent R.; March 17th, seniority Jan. 5th. Temp. Lieut. C. T. Anderson, attd. Manch. R.; March 16th, seniority Jan. 21st. March 16th, seniority Jan. 27th.—Capt. H. Claye, Notts, and Derby R. (T.F.), and to be secd. And to be transfd. to R.F.C. Gen. List:—Temp. Lieut. C. D. Wells, M.C., R. Lanc. R.; Temp. Lieut. J. M. Hay, Ches. R.; Lieut. H. E. Merritt, North'd. Fus. (T.F.), and to be secd. And to be transfd. to R.F.C. Gen. List:—Temp. 2nd Lieut. S. A. W. Knights, M.C., York, and Lanc. R.; Temp. 2nd Lieut. L. C. Lane, R. War. R.; Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—C. F. Warrent; Jan. 18th, seniority Nov. 20th, 1917. P. E. Turner; March 17th, seniority Jan. 22nd.

*Equipment Officers, 2nd Class.*—Temp. Lieut. J. W. Lawlor, Gen. List from an Asst. Inst. (graded as an Equipment Officer 3rd Cl.), School of Technical Training; March 17th. 3rd Cl.—Capt. G. T. Braggiotti (T.F.) Res., Gen. List; Feb. 21st. Temp. 2nd Lieut. H. E. Gridley, Gen. List; March 1st. Temp. Lieut. A. G. Buxton, Trg. Res., and to be transfd. to R.F.C. Gen. List; Lieut. A. Dobner, Middx. R., and to be secd.; Lieut. C. L. Labhart, Lond. R. (T.F.), and to be secd.; March 18th. Temp. 2nd Lieut. (on prob.) J. Piggott, Gen. List, and to be confirmed in his rank; Feb. 21st.

*General List.*—Ormr. and Hon. Lieut. G. A. Hutchinson, from R. Suss. R. (T.F.), to be Temp. Lieut.; March 10th. To be Temp. 2nd Lieuts. (on prob.)—Pte. R. J. Oldfield, from Canadian A.M.C.; Dec. 28th, 1917. Pte. F. K. Tully, from Canadian Inf.; Dec. 29th, 1917. 3rd Cl. Air Mech. W. N. P. Jenkin, from R.F.C.; Dec. 31st, 1917. Acting Staff Sgt.-Major C. Stelfox, from A.S.C.; Pte. H. T. Allman, from a Trg. Res. Bn.; Pte. L. W. Harrison, from a Trg. Res. Bn.; Pte. C. V. H. Harrison, from Canadian Inf.; Pte. J. Davidson, from Canadian Inf.; Acting Cpl. H. B. Willoughby, from Canadian A.M.C.; Jan. 16th. Cpl. A. O. Greeves, from R.E.; Jan. 17th. 3rd Cl. Air Mech. W. C. Egerton, from R.F.C.; L.-Cpl. W. A. Wright, from R.W. Fus.; Acting Cpl. S. V. Cutting, from R.E.; Cpl. A. W. Collington, from R.E.; Pte. G. R. Morgan, from R. War. R.; Jan. 18th. Sgt. L. M. McNab, from N. Zealand F. Amb.; 3rd Cl. Air Mech. S. H. Ware, from R.F.C.; 3rd Cl. Air Mech. R. C. Henderson, from R.F.C.; Jan. 19th. Cpl. C. D. G. Taylor, from N. Zealand Mil. Forces; Actg. Mech. Staff Sgt. H. Curtis-Beals, from A.S.C.; Sgt. D. A. Harding, from Can. Inf.; Jan. 20th. Actg. Sgt. D. R. Grant, from Can. Inf.; L.-Cpl. A. R. Jackson, from Lond. R. (T.F.); 3rd Cl. Air Mech. W. E. Wright, from R.F.C.; 3rd Cl. Air Mech. C. H. Jones, from R.F.C.; Jan. 21st. Dvr. F. L. Pearce, from R.A.; Jan. 23rd. Pte. F. C. Barraclough, from Middx. R. (T.F.); Jan. 24th. 3rd Cl. Air Mech. F. R. Hayward, from R.F.C.; Pte. K. Johannesson, from Can. Inf.; Jan. 26th. Sgt. E. B. Jones, from Yeo. (T.F.); Jan. 28th. Sgt. W. F. Heron, from R.F.C.; Feb. 2nd. Spr. A. E. Davies, from R.E.; Temp. Sgt.-Major C. Henderson, from R.F.C.; Acting Cpl. N. C. Raffin, from R.F.C.; March 27th.

*London Gazette Supplement, April 19th.*

The following appointments are made:—

*Flight Commanders (from Flying Officers).*—Capt. R. H. Rusby, Glouc. R. (T.F.); March 26th. And to be Temp. Capt. while so employed:—Temp. Lieut. H. M. Gibbs, Gen. List; March 24th. Temp. 2nd Lieut. D. H. Chamberlain, Gen. List; March 27th. Temp. 2nd Lieut. E. J. Smetham-Jones, Gen. List; March 28th. Temp. 2nd Lieut. C. A. Lewis, Gen. List; March 31st.

*Flying Officers.*—And to be transfd. to R.F.C. Gen. List:—Temp. 2nd Lieut. C. W. Brook, attd. W. Rid. R.; March 14th. Temp. Lieut. C. Miller, A.S.C.; Lieut. A. G. Peasland, Lond. R. (T.F.), and to be secd.; Temp. 2nd Lieut. B. R. Rolfe, attd. E. Kent R., and to be transfd. to R.F.C. Gen. List; March 17th. Temp. 2nd Lieut. D. J. Allardice, attd. Worc. R., and to be transfd. to R.F.C. Gen. List; March 22nd. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—M. E. De Zee; Dec. 24th, 1917. W. B. Craib; Jan. 22nd. O. Pearson; Jan. 23rd. F. W. Crosbie; Jan. 27th. H. Wilson; Jan. 30th. J. R. Piggott; Jan. 31st. I. de W. Wood; Feb. 2nd. C. E. Forman; Feb. 6th. C. M. Swain; Feb. 24th. R. W. F. Angus; March 6th. W. V. Tueron, E. M. Saunders; March 8th. J. A. Teasdale,

W. B. T. Ross; March 9th. J. Milton, M. F. Korslund; March 10th. F. C. Rider; March 12th. C. B. Weston, A. V. I. Roberts, H. W. Whale, E. O. Drinkwater; March 13th. H. de W. Waller; March 14th. R. D. Buxton, J. B. Smith, H. B. Monaghan, E. G. K. Weakley; March 16th. R. D. C. Palmer; March 17th. E. A. Srodniski; March 19th. W. E. Coulson; March 20th. A. Campbell, C. E. Neath, A. G. Blundell; March 21st.

*Flying Officer (Observer).*—2nd Lieut. J. S. Jones, R.G.A., S.R.; Dec. 8th, 1917, seniority Sept. 9th, 1917. (Substituted for notification in Gazette of Feb. 14th).

*Instructors in Gunnery.*—(Graded as Equipment Officers, 1st Class).—From Assistant Instrs. in Gunnery.—(Graded as Equipment Officers, 2nd Class).—Temp. Capt. W. G. Millar, Gen. List; March 18th. And to be Temp. Capt. while so employed:—Temp. Lieut. P. Middlemas, Gen. List; Lieut. A. W. Sutton, Durh. L.I. (T.F.); Temp. 2nd Lieut. G. B. Neale, Gen. List; Lieut. F. A. Swoffer, Middx. R. (T.F.); March 18th.

*Balloon Company Commander.*—(Graded as a Flight Commander).—Temp. Lieut. O. H. Weekes, A.S.C., from a Balloon Comdr. (graded as a Balloon Officer), and to be Temp. Capt. while so employed; Dec. 11th, 1917.

*Balloon Commander.*—(Graded as a Balloon Officer).—Lieut. C. Joiner, E. Surr. R., from a Balloon Officer; Feb. 19th.

*Equipment Officers, 1st Class.*—Lieut. J. H. Robertson, S.R., from the 2nd Class, and to be Temp. Capt. while so employed; March 23rd. 3rd Class.—Capt. D. A. English, Lond. R. (T.F.), and to be secd.; Oct. 18th, 1917. Temp. Lieut. S. Kelsey, Suff. R., and to be transfd. to R.F.C. Gen. List; 2nd Lieut. H. N. Attwell, N. Staff. R., S.R., and to be secd.; Dec. 11th, 1917. 2nd Lieut. J. R. Brown, M.C., High. L.I. (T.F.), from a Flying Officer (Obs.); Dec. 12th, 1917. Lieut. W. V. Clemence, E. Surr. R. (T.F.), and to be secd.; March 1st. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—T. B. Barnes, F. Child, N. G. Cox; Dec. 11th, 1917. G. H. Heeley; Jan. 1st.

*General List.*—To be Temp. 2nd Lieuts. —Sgt. F. R. Walpole, from Canadian Inf.; Dec. 29th, 1917. Pte. J. W. A. Woodley, from a Training Res. Bn.; Dec. 31st, 1917. Actg. Sgt. W. D. Wiseman, from Canadian Inf.; Jan. 10th. Cpl. S. Leigh, from a Training Res. Bn.; Jan. 11th. Cpl. B. M. Murray, from Canadian Inf.; Jan. 12th. Actg. Corpl. J. Robertson, from R.E.; Jan. 24th. L.-Corpl. J. Sandford, from R. W. Fus.; Sgt. A. T. Burgess, from Lond. R. (T.F.); Pte. F. Fredrickson, from Canadian Inf.; 3rd Class Air Mech. A. McD. Stevenson, from R.F.C.; 3rd Class Air Mech. C. Hall, from R.F.C.; Jan. 25th. Sgt. J. F. Nunn, Suff. R.; Jan. 30th. Sgt. J. R. H. Hewlett, from Scm. L.I.; Jan. 31st. Cpl. D. G. Conaty, from R.E.; Sgt. R. A. Evans, from A.S.C.; Feb. 1st.

*London Gazette Supplement, April 20th.*

The following appointments are made:—

*Flying Officers.*—Lieut. R. H. Kelly, Quebec R., Canadian Exped. Force, from a Flying Officer (Obs.); Feb. 18th, seniority April 23rd, 1917. Lieut. G. S. Bushe, Quebec R., Canadian Exped. Force; March 4th. 2nd Lieut. A. Braithwaite, Durh. L.I. (T.F.), and to be secd.; March 8th. Lieut. J. Talbot, High. L.I. (T.F.), and to be secd.; March 9th. 2nd Lieut. L. L. Mogridge, L'pool R. (T.F.), and to be secd.; Temp. 2nd Lieut. D. G. Meade, attd. Middx. R., and to be transfd. to R.F.C. Gen. List; March 10th. Lieut. H. F. Flowers, R.F.A. (T.F.), from a Flying Officer (Obs.), seniority April 12th, 1917. 2nd Lieut. J. Gitsam, S.R.; 2nd Lieut. A. H. Kerr, R.G.A., S.R.; March 11th. Temp. 2nd Lieut. J. V. Kynaston, attd. Ches. R., and to be transfd. to R.F.C. Gen. List; March 12th. Lieut. H. B. Hammond, M.C., R.A., from a Flying Officer (Obs.), seniority Jan. 23rd, 1917. Lieut. G. Allsop, Notts, and Derby R. (T.F.), from a Flying Officer (Obs.), seniority March 6th, 1917. Temp. 2nd Lieut. A. C. Heaven, M.C., Gen. List, from a Flying Officer (Observer), seniority Oct. 27th, 1916. Lieut. C. A. Moore, N. Brunswick R., Canadian Exped. Force; Lieut. H. N. Price, Nova Sco. R., Canadian Exped. Force; Lieut. D. S. Inglis, Gord. Highrs, S.R., and to be secd.; March 13th. Temp. 2nd Lieut. J. B. Small, attd. Rif. Brig., and to be transfd. to R.F.C. Gen. List; March 15th. Temp. Capt. E. T. Laverack, attd. Suff. R., and to be transfd. to R.F.C. Gen. List; Lieut. E. B. Humphries, M.C., W. York. R. (T.F.), and to be secd.; Lieut. N. F. McKela, Alberta R., Canadian Exped. Force; March 6th. Lieut. G. Beveridge, Quebec R., Canadian Exped. Force; Temp. Lieut. G. W. Hawkins, M.C., Bord. R., and to be transfd. to R.F.C. Gen. List; March 17th. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—F. B. Huson; Nov. 2nd, 1917. E. A. Locke-Waters; Nov. 7th, 1917. E. D. Gordon; Dec. 26th, 1917. L. P. Graeb; Feb. 1st. W. E. T. Williams; Feb. 9th. J. C. Wood; Feb. 13th. C. W. Meredith; Feb. 20th. W. C. Tempest; Feb. 28th. D. W. Geerds; March 7th. H. S. Davie; March 8th. R. F. Lewis, N. Nuttall; March 9th. F. J. E. Willis, F. V. Sheard; March 10th. G. S. Ramsay, H. B. Challen, F. B. Champness, E. R. Seymour, I. C. R. Mackenzie, A. C. P. Stephenson, A. Devitt, D. B. Jones, A. L. Walker, E. Frost; March 11th. J. H. Cathcart, L. J. Sawyer, A. Drysdale; March 14th. W. Jaffray, J. Mollison, L. C. Sheffield, T. Wright; March 15th. W. H. Stubbs; March 16th.

*Flying Officers (Observers).*—Temp. 2nd Lieut. A. F. Ferguson, High. L.I., and to be transfd. to R.F.C. Gen. List; March 14th, seniority Nov. 12th, 1917. Lieut. K. C. Herron, Yeo. (T.F.), seniority from Nov. 20th, 1917, and to be secd.; Temp. 2nd Lieut. J. S. Bradley, Gen. List, seniority from Dec. 29th, 1917; March 12th. Temp. 2nd Lieut. R. A. West, attd. W. York. R., and to be transfd. to R.F.C. Gen. List; March 14th, seniority from Dec. 30th, 1917. Lieut. F. B. Rees, Manch. R. (T.F.), and to be secd.; March 13th, seniority from Dec. 31st, 1917. Temp. Lieut. V. W. Scott, M.C., E. Surr. R., and to be transfd. to R.F.C. Gen. List; March 14th, seniority from Jan. 4th. Capt. A. W. Jones, N. Lan. R. (T.F.), and to be secd.; March 12th, seniority from Feb. 6th. Temp. Lieut. E. M. Greenwood, R.A., and to be transfd. to R.F.C. Gen. List; March 13th, seniority from Feb. 6th. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—T. Allan; March 14th, seniority from Nov. 4th, 1917. P. Hardy; March 12th, seniority from Nov. 21st, 1917. P. T. Holligan; March 14th, seniority from Dec. 14th, 1917. H. Wisnekonitz; March 13th, seniority from Dec. 30th, 1917. March 14th, seniority from Jan. 4th.—A. H. Craig, E. B. Selby.

*Assistant Instructors in Gunnery.*—Graded as Equipment Officers, 2nd Class.—From Assistant Instructors in Gunnery (graded as Equipment Officers, 3rd Class).—Lieut. C. H. Holcroft, R. War. R. (T.F.); Temp. Lieut. W. Douglas, Gen. List; March 1st. 2nd Lieut. (Temp. Lieut.) V. V. Cadman, Middx. R. (T.F.), an Asst. Instr. in Gunnery (graded as an Equipment Officer, 3rd Class), Schools of Aerial Gunnery; March 3rd.

*Balloon Officers.*—Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—W. F. Booth, F. S. C. Buchanan, H. Riches, A. Dodd, F. E. Rix; March 1st. A. R. Morrison, G. A. Cooper, A. J. Dunton, T. W. Gowland; March 8th.

*Adjutant.*—Temp. Lieut. F. J. Wood, attd. Suff. R., and to be transfd. to R.F.C. Gen. List, and to be Temp. Capt. (with pay and allowances as Lieut.) while so employed; March 1st.

*Park Commander.*—Capt. (Temp. Lieut.-Col.) W. E. G. Ord-Statter, R. Lanc. R., from a spec. appt. (graded as a depot comdr.), to relinquish his temp. rank, and to be Temp. Maj. while so employed; Jan. 17th, seniority April 19th, 1917.

*Equipment Officers, 2nd Class.*—Temp. Lieut. S. N. Veitch, Gen. List, from the 3rd Class; Feb. 23rd. 3rd Class.—Temp. Lieut. C. V. Anthony, Gen. List; Feb. 16th. Lieut. J. C. Smith, Yeo. (T.F.), from a Flying Officer; March 7th. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—W. R. Fairbairn; Dec. 3rd, 1917. G. Cockburn; Feb. 16th. J. N. Yuille; March 5th. R. T. Sault, W. B. Jones, E. W. Jenkins, F. Cohen, J. A. Whitehead; March 7th.

### Schools of Instruction.—School of Technical Training.

**Assistant Instructor.**—Graded as an Equipment Officer, 2nd Class.—Temp. 2nd Lieut. A. Colledge, Gen. List, an Equipment Officer, 3rd Class, and to be Temp. Lieut. while so employed; March 22nd.

**Park Commanders.**—And to be Temp. Maj. while so employed:—Capt. (actg. Lieut.-Col.) H. R. Bently, Ches. R., to relinquish his actg. rank, and to be secd.; Feb. 26th. Temp. Capt. G. L. Paine, Training Res., and to be transfd. to R.F.C., Gen. List; March 1st.

### London Gazette Supplement, April 22nd.

#### Attached to Headquarter Units.

**Brigade Commander.**—The rank of Bt. Maj. (Temp. Lieut.-Col.) R. R. Smith-Barry, R.F.C., S.R., is as now described, and not as in *Gazette* of Feb. 8th and March 18th.

The following appointments are made:—

**Staff Officer, 3rd Class.**—(Graded as a Staff Capt.)—Lieut. G. C. Bateman, E. Kent R. (T.F.), to be secd., and to be Temp. Capt. while so employed; March 18th.

**Squadron Commander.**—Capt. G. D. Gardner, M.C., York. R. (T.F.), from a Flight Comdr., and to be Temp. Maj. while so employed; March 12th.

**Flight Commander.**—Lieut. W. J. Corbishley, York. and Lanc. R., from a Flying Officer, and to be Temp. Capt. while so employed; March 21st.

**Special Appointment.**—(Graded as a Flight Comdr.)—Capt. R. H. C. Usher, M.C., Wilts. R., S.R., from a Special Appt. (graded as an Equip. Officer, 1st Class March 18th.

**Flying Officers.**—Lieut. F. A. Hobro, Hereford R. (T.F.), from a Flying Officer (Obs.), seniority from Dec. 19th, 1916. 2nd Lieut. A. V. Morton, Glouc. R., from Temp. Lieut., Serv. Bn., and to be secd.; Temp. 2nd Lieut. E. G. Keeping, L'pool R., and to be transfd. to R.F.C., Gen. List; Feb. 15th. Lieut. P. T. Hunt, Yeo. (T.F.), and to be secd.; Feb. 17th. Lieut. H. Axford, Manitoba R., Canadian Exped. Force; Feb. 25th. Lieut. A. S. Meyrick-Jones, R.A., and to be secd.; March 8th. Lieut. R. de N. Coape-Arnold, S. Staff. R. (T.F.), and to be secd.; March 11th. Temp. Lieut. H. C. Stephens, R.E., from a Flying Officer (Obs.), seniority Jan. 4th, 1917. Lieut. E. S. Wood, Notts and Derby R. (T.F.), and to be secd.; Temp. Lieut. T. Johnson-Gilbert, Gen. List, from a Flying Officer (Obs.), seniority Oct. 20th, 1916; March 13th. Temp. 2nd Lieut. J. G. Lumley, Shrops L.I., and to be transfd. to R.F.C., Gen. List; March 15th. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—

A. R. Bolay, G. S. Jones-Evans; Feb. 1st. E. R. McCanon, E. Cummings; Feb. 10th. C. D. G. Taylor; Feb. 15th. N. P. Atkinson, W. C. Egerton; Feb. 16th. B. M. Murray, B. I. Ward; Feb. 17th. R. Hall; Feb. 19th. A. Pinks, C. V. H. Harrison, F. C. Barraclough; Feb. 20th. L. Rawlinson, J. B. C. Knight, S. V. Cutting, A. McD. Stevenson; Feb. 21st. C. H. Stonham; March 14th. J. F. Good, C. C. A. Beaumont, A. F. Tong, S. Leslie; March 16th. S. Moxey, B. N. Wright, E. Rowlands, F. Cabburn, J. McB. V. Sillars, G. W. Nelson, J. M. Brown, P. F. Gyles, W. F. T. Coutts; March 17th. C. G. Jenyns, C. C. E. Robinson, A. R. Hunt, E. A. Doughty, A. A. Callaghan, H. E. O'Hara, R. G. Young, J. A. R. Mason; March 18th. R. W. Whalley, T. H. Crossman; March 20th. L. A. Martin; March 21st.

**Balloon Officers.**—Capt. J. A. Jackson, M.C., Br. Columbia R., Can. Exped. Force; Lieut. J. F. Lewall, Br. Columbia R., Can. Exped. Force; Lieut. R. Mott, Br. Columbia R., Can. Exped. Force; Temp. Lieut. C. F. Powell, attd E. Surr. R., and to be transfd. to R.F.C., Gen. List; March 1st. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—A. D. Staite, M. D. Grainger, H. M. Taylor, T. Guinan.

**Equipment Officers, 3rd Class.**—Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—F. C. E. Burton, C. W. Clare, H. S. Given, S. W. Margetts, A. D. Tyler, B. H. Bayliss, McD. Goodall, O. E. C. Taylor, H. Wearings, E. T. F. Welburn; March 6th.

### Schools of Instruction.—Armament School.

**Instructors in Gunnery.**—(Graded as Equipment Officers, 1st Class.)—Capt. P. S. Jackson-Taylor, Hereford R. (T.F.), from an Asst. Instr. in Gunnery

(graded as Equipment Officer, 2nd Class); 2nd Lieut. (Temp. Capt.) P. H. R. Whittet, M.C., S.R., an Equipment Officer, 3rd Class, and to retain his temp. rank while so employed; Lieut. G. A. Heath, Glouc. R., S.R., from an Asst. Instr. in Gunnery (graded as Equipment Officer, 2nd Class), and to be Temp. Capt. while so employed; Feb. 23rd.

**Assistant Instructors in Gunnery.**—(Graded as Equipment Officers, 2nd Class.)—From Asst. Instrs. in Gunnery (graded as Equip. Officers, 3rd Class.)—Capt. T. N. Weguelin, Hamps. R. (T.F.); Temp. Lieut. G. C. C. Pentland, Gen. List; Temp. Lieut. W. R. Carrick, Gen. List; Lieut. C. A. Hoy, M.C., Cyclist Bn. (T.F.); Lieut. E. L. French, R. Ir. Rif., S.R.; Lieut. A. L. C. Fuller, D. Gds.; Feb. 23rd. And to be Temp. Lieuts. while so employed:—Temp. 2nd Lieut. H. W. Hire, Gen. List; Temp. 2nd Lieut. T. C. Sterndale-Bennett, Gen. List; 2nd Lieut. E. A. B. Carter, Middx. R. (T.F.); 2nd Lieut. A. G. Berry, R. Suss. R. (T.F.); Temp. 2nd Lieut. A. F. Hambly, Essex. R., and to be transfd. to R.F.C., Gen. List; Feb. 23rd.

**General List.**—The following Temp. 2nd Lieuts. to be Temp. Lieuts.:—G. R. Thorne, J. H. Taylor, C. G. Slade, H. E. Randall, D. C. Rowlett, (Temp. Lieut.) C. T. Brown, F. Adams, C. M. Benjamin; July 1st, 1917. T. H. Birdsall; July 23rd, 1917. A. A. Davis; Sept. 6th, 1917. J. A. Pritchard; Sept. 14th, 1917. G. H. Wood, M.C.; Nov. 9th, 1917. R. G. Hutchinson; Nov. 18th, 1917. L. A. Hacklett; Nov. 26th, 1917. J. L. Tibbets; Dec. 3rd, 1917. C. W. Band; Jan. 7th. J. G. Vecqueray, E. O. L. Bell; Jan. 8th. E. D. Howard; Jan. 22nd. F. K. Crosbie-Choppin; Jan. 20th. W. B. Giles, T. S. L. Mann; Feb. 2nd. R. F. Barnes, R. M. Burnand, M.C., D. C. Beadell, R. M. Dixon, L. G. Harrison, J. L. Hill, H. B. Lemon, H. P. M. Kesterton, M.C., O. W. A. Manning, G. H. Martingell, L. P. Smith, A. C. Sanderson, G. R. G. Smeddle (since killed), L. Smith, T. V. Villiers; Feb. 5th. J. Southall, A. Travers, L. E. Vine; Feb. 8th. L. R. Neville; Feb. 12th. C. J. S. Dearlove; Feb. 21st. H. E. Ward; Feb. 24th. R. L. Roe; Feb. 26th. H. M. D. Walker; March 4th. L. S. Kiggell, C. R. Strudwick, E. D. Soar, H. Shaw, A. A. Shaw, R. S. Twigg, H. G. Wood, H. F. Walker, W. P. T. Watts, E. D. Whittles, A. S. White (Temp. Lieut.) D. J. W. Walker; March 5th. W. E. Wright; March 9th. (Temp. Lieut.) L. L. W. Smythe, H. Stansfield, (Temp. Lieut.) C. E. Tebbis, F. Ward; March 10th. V. C. Legg; March 11th. J. H. Thorpe; March 12th. J. Watson; March 19th. W. V. Radford; March 21st. R. L. Truelove; March 22nd. A. L. Johnson, C. H. Stafford; March 24th. N. P. Henderson; March 25th. F. V. Bryant, F. F. Babbage, C. P. Beadon, P. S. Bell, T. W. Calvert, J. K. Chatham, A. Critchley, (Temp. Capt.) M. B. Frew, M.C., D. S. Gray, E. P. Holloway, S. Hewett, (Temp. Capt.) N. V. Harrison, E. L. Humphreys, H. Horrocks, E. M. Meredith, T. H. MacDonald, E. T. Molyneux, A. W. Little, P. I. Lewis, T. A. Langford-Sainsbury, N. McLeod, H. F. Nicholls, A. G. Platt, S. Pickford, L. A. Rivers, H. Smith, B. F. Sandy, S. E. M. Simpson, F. Thompson, S. S. Turnbull, S. Thompson, P. Wilson, J. L. Walton; March 26th. Flight Sgt. J. E. Howell, from R.F.C., to be Temp. 2nd Lieut.; Jan. 3rd. 3rd Class Air Mechanics, from R.F.C., to be Temp. 2nd Lieuts.:—E. Milner, S. Scott, G. W. Thorpe; Jan. 11th. H. O'Connor, D. W. Holmes, B. I. Ward, N. P. Atkinson, G. F. Spaulding; Jan. 12th. A. Pinks, J. B. C. Knight; Jan. 14th. A. H. Ashton; Jan. 15th. L. F. Mead; Jan. 16th.

### Department of Aircraft Production.

London Gazette Supplement, April 18th.

To be Temp. Hon. Lieut.:—Cpl. B. C. Hawkrige, from R.F.C., while employed as Asst. Insp., Dept. of Aircraft Production; Nov. 1st, 1917.

### Aeronautical Inspection Department.

London Gazette Supplement, April 17th.

To be Temp. Lieuts. (without the pay or allowances of that rank) while employed as Asst. Insps., Aeronautical Inspn. Dept.:—Temp. 2nd Lieut. N. Lee; Nov. 5th, 1917. 2nd Lieut. A. E. Joyce, Res. of Off.; Nov. 15th, 1917.



## AIRCRAFT WORK AT THE FRONT.

### OFFICIAL INFORMATION.

#### British.

#### General Headquarters, April 8th.

"On the 7th inst. visibility was good, enabling useful work to be done by our aeroplanes in co-operation with the artillery, but clouds prevented long-distance reconnaissance and photographic flights. Several good targets were engaged by our low-flying aeroplanes, whose pilots dropped to tons of bombs and fired a great many rounds of ammunition upon hostile troops and transport on the battle front. South of the Somme hostile aircraft were active. Six of the enemy's machines were brought down in air fighting, and nine others driven down out of control. In addition, two other German machines were shot down by our anti-aircraft guns. Four of our aeroplanes are missing. During the night five and a half tons of bombs were dropped by us on Douai railway station and Bapaume."

#### General Headquarters, April 9th.

"With the exception of a few flights at a low altitude, no flying took place on the 8th inst., owing to mist and rain. One hostile balloon was brought down. None of our aeroplanes are missing. One of our aeroplanes which was reported missing on the 7th inst. has since been located."

#### General Headquarters, April 10th.

"During the morning of the 9th inst. the whole front was covered in mist, which prevented any of our aeroplanes leaving the ground. Later in the day, when there was a slight improvement in the weather, our machines reconnoitred the new battle front between La Bassée and Armentières, and bombed and engaged with machine-gun fire the enemy's attacking troops. Hostile low-flying machines were also active on this sector. Four of these machines were brought down by our aeroplanes and one was shot down by our infantry. Two of our aeroplanes are missing."

#### General Headquarters, April 11th.

"The weather on the 10th inst. was most unfavourable for flying, but as soon as it was possible to leave the ground our aeroplanes went out on reconnaissance of the battle front. Useful information was brought back as to the enemy's troops, which were attacked with bombs and machine-gun fire on every suitable occasion. Owing to the mist our pilots were compelled to fly at an average height of 200 ft. in order to obtain any information, and experienced very heavy fire from the ground. The enemy's low-flying machines were also active on the front. Three hostile machines were brought down in our lines by our infantry and four others brought down by our aeroplanes. One German machine was driven down out of control. Seven of our machines are missing. At midday on the 11th inst. a raid was carried out by us against Luxemburg railway station. Over a ton of bombs were dropped, and several bursts were seen on the railway and around the station. The enemy's anti-aircraft gun fire was considerable. All our machines returned."

#### General Headquarters, April 12th.

"The mist which has prevailed during the last few days continued till late in the afternoon of the 11th inst., when the weather gradually began to clear. While the mist lasted aerial activity was confined to the battle front north of

La Bassée Canal, where our aeroplanes reconnoitred the line at a very low height and dropped bombs and fired their machine-guns at the enemy troops in the open. When the mist cleared there was great activity in the air along the whole front. Several long-distance reconnaissances were carried out; many photographs were taken, and much fighting took place. Twenty-one hostile machines were brought down and 14 others were driven down out of control. Four of our machines are missing. Two of our aeroplanes reported yesterday as missing have since returned. During the night over eight tons of bombs were dropped on Bapaume, on villages south of the Somme, and on military objectives at Ostend and Zeebrugge. One of our machines has not returned."

"On the 12th inst. the Sablon railway station at Metz was successfully bombed. Twenty-two heavy bombs were dropped, all of which burst on the railway and the sidings. All our machines returned."

#### War Office, April 13th.

"Salonica.—On April 4th the Royal Flying Corps bombed Anghista station and caused considerable damage to the railway lines. On their return our machines brought down a hostile aeroplane in the neighbourhood of Orfano."

"On April 6th we raided the Bulgarian trenches north-east of Lake Doiran, capturing prisoners and inflicting casualties. Our aeroplanes co-operated against the enemy's gun emplacements and infantry."

"On the evening of April 11th our aeroplanes bombed Porna station. All the bombs dropped were observed to burst in or near the station buildings."

#### General Headquarters, April 13th.

"On the 12th inst. atmospheric conditions were favourable for flying, and a great concentration of our aeroplanes was effected by us on the battle-front. Large numbers of low-flying machines were employed in bombing and sweeping with machine-gun fire roads packed with the enemy's troops. Thirty-six tons of bombs were dropped and over 110,000 rounds of ammunition were fired by us. While these attacks on ground targets were in progress, other formations, flying at a greater height, engaged the enemy's aeroplanes, which were extremely active in this sector. Other machines reconnoitred the battle area, bringing back information as to the positions of our own and the enemy's troops. On the remainder of the British front the usual work in co-operation with our artillery was carried out, and a very large number of photographs were taken. In air fighting, 40 German machines were brought down by our aeroplanes and 20 other hostile aeroplanes were driven down out of control. In addition, two of the enemy's machines were shot down by anti-aircraft gun-fire. Three hostile observation balloons were also destroyed. Twelve of our aeroplanes are missing."

"After dark, the incessant bombing carried out by us during the previous 12 hours was continued until dawn. Over 22 tons of bombs were dropped on different targets, including the Don and Douai railway stations, two important railway junctions between Mézières and Reims, and roads leading up to the battle-front in the neighbourhood of Estaires."

*General Headquarters, April 14th.*

"On the 13th inst. clouds and mist prevented fighting except at a low height from the ground. Our low-flying machines reconnoitred the battle front throughout the day, and dropped over 1,200 bombs on the enemy's troops on roads leading to the front. Only a few fights took place, and results were indecisive. One of our machines is missing."

*War Office, April 14th.*

"*Italian Front.*—The weather has been consistently bad, and little flying has been possible. On the few occasions the R.A.F. has been able to go out three enemy machines have been destroyed and two driven down out of control without loss to ourselves."

*General Headquarters, April 15th.*

"On the 14th inst. our aeroplanes reconnoitred the enemy's lines on the Lys battle front, and were again obliged by clouds and mist to carry out their work at a very low height. Bombs were dropped and machine-gun fire was opened from the air on the enemy's troops in this area. All our machines returned."

*General Headquarters, April 16th.*

"On the 15th inst. the bad weather continued, and only permitted flights at a low altitude. Over four tons of bombs were dropped by our aeroplanes on different targets. In one case a direct hit was obtained with a heavy bomb on a large column of hostile infantry. No German aircraft were encountered. One of our machines is missing."

*General Headquarters, April 17th.*

"On the 16th instant the mist that has hung over the lines during the last few days turned to drizzle, making flying almost impossible. Movements on the battle front were, however, watched by our machines flying at a very low height and a few bombs dropped. One hostile machine was brought down and another landed behind our lines. One of our machines is missing."

*General Headquarters, April 18th.*

"During the morning of the 17th inst. there was a slight improvement in the weather, but before midday rain and mist again set in. Our aeroplanes were active throughout the day on the Meteren-Wytschaete front bombing the enemy's troops and harassing them with machine-gun fire. Over 500 bombs were dropped by us from a very low height. There were a few fights early in the day, in the course of which two hostile machines were brought down and one other was driven down out of control. Four of our aeroplanes are missing."

"On the 18th inst. the weather made it impossible during the day to do more than carry out low reconnaissance and to drop a few bombs in the battle area. At night 9 tons of bombs were dropped on Bapaume, Armentières, Warneton, and on the railway junction at Chaumes. All our machines returned."

*War Office, April 18th.*

"*Italian Front.*—Yesterday was the first fine day for some 10 days, and led to much aerial activity. Several successful long-distance reconnaissances were carried out. There was heavy fighting in the air, 11 enemy machines were destroyed and one driven down out of control; none of our machines is missing. In addition, one enemy aeroplane was brought down to-day by our anti-aircraft fire."

*General Headquarters, April 20th.*

"There was no improvement in the weather on the 19th inst., but a certain amount of flying was done by our aeroplanes between storms of rain and snow. Reconnaissances were carried out at a low height, and 4½ tons of bombs were dropped on Thourout Railway Station, Engel ammunition dump, and targets in the battle area. Only a few indecisive combats took place. None of our machines are missing."

"After dark our night-flying squadrons were very active. Sixteen tons of bombs were dropped by them on Armentières, Warneton, Estaires, Bapaume, and the railway junction at Chaumes. Direct hits were observed on four trains, one of which, judging from the explosions caused, was undoubtedly full of ammunition. All our machines returned."

*General Headquarters, April 21st.*

"The weather improved on the 20th inst., but thick clouds prevented flying at high altitudes. A number of reconnaissances were carried out by our aeroplanes, and some observation work was accomplished in co-operation with the artillery. Twelve tons of bombs were dropped by us during the day on various targets, including Menin, Armentières, and Thourout railway junction. Owing to the improvement in the weather, more fighting took place in the air than during the last few days. Six hostile machines were brought down and three others were driven down out of control. Three of our machines are missing."

"During the night our night-flying squadrons bombed Bapaume and also the enemy's rest billets and roads leading to the front. Hostile railway junctions were also attacked at Chaumes, where a large fire was caused, at Juniville (20 miles north-east of Reims), and at Bétheniville. A total of over 11 tons of bombs were dropped, and all our machines returned."

*General Headquarters, April 22nd.*

"After a long spell of stormy weather, which greatly hampered aerial work the 21st inst. brought a change, and our aeroplanes were able to be in the air from dawn till dark. The good visibility favoured our artillery, photographic and long-distance reconnaissance machines. Bombing was carried out by us incessantly on the whole front. Over 23 tons of bombs were dropped on Thourout railway station, Menin, Armentières, Chaumes, and various other targets. Thousands of rounds of machine-gun ammunition were fired by our low-flying machines. The enemy's machines were seen in large numbers, but were not aggressive. Eleven German machines were brought down in air fighting, and six others were driven down out of control. A hostile observation balloon was also destroyed. Our anti-aircraft fire shot down two other hostile aeroplanes. Five of our machines are missing. The pilot of one of the hostile machines which was brought down in combat, and fell in our lines, was the well-known German airmen and fighter, Rittmeister Freiherr M. von Richthofen, who claimed to have brought down 80 Allied machines. His body has to-day been buried with full military honours."

"During the night of the 21st inst. our night-flying machines again bombed Armentières, Bapaume, Chaumes railway junction, and Péronne, dropping in all 9½ tons of bombs. All our machines returned."

**French.**

*Paris, April 10th.*

"It is confirmed that four more enemy aeroplanes were brought down by our pilots on March 31st and April 2nd and 6th. A fifth was accounted for by the anti-aircraft defences."

*Paris, April 11th.*

"During the day of April 10th two German aeroplanes were brought down by our machine-gun fire."

"During the month of March 26 German aeroplanes were brought down by the anti-aircraft defences, eight during the night. To this number must be

added two aeroplanes brought down by the Paris defence during the raid of March 12th-12th."

*Paris, April 12th.*

"On April 11th our chasing aeroplanes fought numerous actions, in the course of which two German aeroplanes and a captive balloon were brought down. Twelve other enemy machines were gravely damaged and fell in their lines. The same day our squadrons dropped 16,000 kilogrammes of projectiles on the station of St. Quentin and on the depôts and aviation ground in the region of Montdidier. A furious conflagration destroyed the hangars of Champien. A fire and an explosion were observed in the station of St. Quentin. It is confirmed that an enemy aeroplane and captive balloon were destroyed on March 23rd and two aeroplanes on March 31st."

*Paris, April 13th.*

"During Friday our airmen, taking advantage of the fine weather, displayed great activity on the whole of the front, especially in the Somme and Oise regions."

"Our chasing machines made over 350 flights and fought 120 actions. Eight enemy machines were brought down, and 23 others fell in their own lines badly damaged. In addition, five enemy captive balloons were burnt, and five others were so badly riddled with shot that they had to be hauled down quickly."

"Our bombing machines were also busy during the day of the 12th and the following night. In all, 48,000 kilograms (about 48 tons) of projectiles were dropped during these expeditions, in which Italian aircraft took part. The railway stations of Jusy, Roye, St. Quentin, Nesle, Ham, Guiscard and Noyon, the railway tracks, the cantonments, and numerous convoys in these regions, as well as the railway stations of Hirson, Laon and Montcornet, were copiously bombed. Several fires and some explosions were observed."

*Paris, April 15th.*

"On April 13th and 14th four German aeroplanes were brought down, two of them by the fire of our machine-guns. Our bombing machines dropped 3,000 kilogrammes of bombs on the enemy establishments and convoys in the region of Montdidier."

"*Salonica.*—Twenty British aeroplanes on Saturday bombed the aerodrome of Hudovo (in the Vardar Valley). It is confirmed that two enemy chasing aeroplanes were brought down in the course of this operation."

"British airmen yesterday bombed the depôt of Kakara, causing the derailment of a train."

*Paris April 16th.*

"*Salonica.*—Allied airmen carried out several bombardments of the enemy establishments in the Vardar valley and in the region of Seres."

*Paris, April 17th.*

"During the 15th and 16th inst. four German aeroplanes were brought down by our pilots. It is confirmed that two other enemy machines were destroyed on April 12th in an air fight."

*Paris, April 18th.*

"*Salonica.*—Allied airmen bombed enemy camps north-west of Seres and north of Lake Prespa."

*Paris, April 20th.*

"During the night of April 18th-19th, about 4 tons of projectiles were dropped by 15 of our aeroplanes on the landing ground of Champien, and on bivouacs in the region of Ham, Noyon, and Guiscard. During the day of the 19th inst. 13 of our machines in the course of two flights dropped 1,850 kilogrammes (over 1½ tons) of explosives on enemy organisations in the region of Roye and Moreuil."

"Seventy aeroplanes, during the night of April 19th-20th, most successfully bombed the station of St. Quentin and numerous railway lines in the region of Jusy, as well as the aviation grounds. More than 15 tons of explosives were dropped. Another group of seven machines bombed the stations of Montcornet, Asfeld, Hirson, and the aerodrome of Clermont-les-Forges. Patrols of aeroplanes flying at a low altitude machine-gunned resting troops."

"It is confirmed that an observation balloon and three new aeroplanes have been brought down, one by means of our anti-aircraft defences."

*Paris, April 22nd.*

"During the 20th and 21st four German aeroplanes and two captive balloons were destroyed by our pilots, and a fifth aeroplane was brought down by infantry fire. In addition, 16 enemy machines fell in their own lines in a badly damaged condition, after aerial combats. During the same period our bombing machines carried out numerous operations. Forty-nine thousand kilogrammes (49 tons) of projectiles were dropped on railway stations, camps, and aerodromes in the region of St. Quentin, Jusy, Chaumes, Noyes, Ham, Guiscard, and Asfeld. Two fires broke out in the railway station of Chaumes, and in the station of Asfeld. An ammunition dump to the east of Guiscard blew up."

"*Salonica.*—An enemy machine was brought down by British airmen north-east of Petric."

*Rome, April 9th.*

"An enemy machine was shot down by one of our airmen above S. Lucia di Piave."

*Rome, April 18th.*

"During yesterday five enemy aeroplanes were brought down by our airmen in the region of Valdobbiadene and Conegliano; British chasers cruising from the Asiago Plateau to Motta di Livenza shot down 11 more hostile machines, while a twelfth was compelled to land."

"A seaplane was hit by anti-aircraft guns, and fell into the sea near Porto di Piave Vecchia; the three airmen who manned it were taken prisoner."

*Rome, April 19th.*

"A British anti-aircraft battery shot down an enemy aeroplane in the neighbourhood of Rotzo."

**German.**

*Berlin, April 9th.*

"The losses in March of enemy aerial fighting forces on the Western theatre of war amount to 23 captive balloons and 340 aeroplanes. Of the latter 158 were brought down behind our lines, the others were observed to fall within the enemy positions."

"We lost 81 aeroplanes and 11 captive balloons."

*Berlin, April 14th.*

"In air battles during the last few days 37 enemy aeroplanes and three captive balloons were shot down. Lieutenant Monckhoff gained his 24th aerial victory."

*Berlin, April 21st.*

"Captain Baron von Richthofen, at the head of the trusty chasing echelon, gained his 79th and 80th, and Lieutenant Buckler his 31st aerial victory."

**Austrian.**

*Vienna, April 18th.*

"In Albania Acting-Officer Arrighi achieved his 24th aerial victory."

*Vienna, April 21st.*

"Captain Brumowsky gained a victory for the 29th time in aerial battle."

**R.A.F. Appointments.**

It was announced on April 18th that the Secretary of State for the Royal Air Force has appointed Mr. Bertram Jones to be Civil Assistant to the Controller-General of Equipment in the Air Ministry.

**Military Medal for Brave Nurse.**

THE supplement to the *London Gazette* for April 18th

announces that the King has approved of the award of the Military Medal to Staff Nurse Sarah Evelyn Johnson, Q.A.I.M.N.S. (R.) for gallantry, consistent good work and devotion to duty. When the casualty clearing station was struck by a bomb from an aircraft she displayed great courage and coolness, and set a splendid example to all, showing absolute disregard of danger.

## SIDE-WINDS.

For some time the Aircraft Supplies Co., Ltd., of 125, Long Acre, W.C.2, have had, as it were, an outpost at "Brum," and they have already established a large connection in Birmingham and the surrounding counties, but now the expansion of Ascol Service has become so rapid that the company have taken new offices at 54A, International Exchange, Edmund Street, Birmingham, which have been fitted up under the direction of the Brothers Serin. Mr. L. J. Serin has been representing Ascol House for some time in the district, but customers' wants have outgrown the possibility of the "personal touch" which he has established over a wide radius with the aid of his motor bike. Consequently his brother, Mr. A. M. Serin, has left the important position he held at Ascol House, London, to assist in covering the Birmingham district. Supplies will be despatched as heretofore. When in doubt, 'phone to Central 1213, Birmingham, or Gerrard 276, London.

CELLON, LTD., are going West—in the geographical sense only—and on and after Monday next the headquarters from which Mr. A. J. A. Wallace Barr will direct Cellon strategy will be 22, Cork Street, London, W.1. Note should be made of the new telephone, Gerrard 440 (two lines), while the telegraphic address is now Ajawb, Reg, London.

CONGRATULATIONS to Mr. and Mrs. J. A. Whitehead on the arrival of a daughter at Buccleuch House, Richmond, on April 23rd.

MESSRS. J. SAMUEL WHITE AND CO., LTD., are to be congratulated on having secured the services of Wing-Commander Gerald Aldwell, R.N. (retired), as general manager of their

aviation department. He is taking up his new duties forthwith.

ANOTHER move towards making Long Acre a centre of the aviation industry is the migration of Messrs. Whiteman and Moss, Ltd., who have secured Avon House, 35, Long Acre, W.C. 2, which is admirably adapted for their purpose. The 'phone call to the new headquarters is Gerrard 2060 or Gerrard 2061, while the telegraphic address is "Whitemoss, Rand, London."

FROM Messrs. Brown Brothers, Ltd., of Great Eastern Street, E.C., comes a new edition of their little portfolio of sketches of leading aeroplanes. Each sketch is clearly printed and they will doubtless prove useful and instructive to many. Any reader of "FLIGHT" who would like a copy should write to Messrs. Brown as above.

A DISTINCTLY useful little table showing the minimum breaking loads of the various standard strainers which have been introduced during the past three years has been got out by the Aircraft Accessories Department of Messrs. Mann, Egerton and Co., Ltd. Copies of the table, mounted on card, have been sent to the leading aircraft firms in the country, but if anyone who would like a copy has been overlooked, they should drop a line to the firm at 177, Cleveland Street, London, W.

### NOTABLE SAVINGS OF TO-DAY.

"Look before you leap," is a mighty good motto, but you don't always get time.—[Clifford B. Podger.]

"There's a lot depends on which way you get out of a car." —[Douglas W. Thorburn.]

### Air Raid Over Sahara Desert.

It became known in Paris on Monday that three weeks previously a bombing squadron, led by Lieutenant Bernard, carried out a brilliant feat by flying 1,300 kilos. (812 miles) in Southern Oran (Algerian Sahara), and bombarding and destroying the encampments of the Tuaregs who were manifesting a disquieting hostility in that region.

### Successful French Flyers.

At the end of last week Sub-Lieutenant Fonck had brought down another enemy aeroplane, bringing his score up to 35. Of the last two successes, one machine was brought down near Montdidier and the other one near Morieuil.

Sub-Lieutenant Chaput has brought down another enemy machine near Montdidier. This makes the fifteenth machine he has accounted for.

Flight Sub-Lieutenant de Meuldre has brought down his twelfth enemy machine, and Flight-Commander Mossenet his sixth.

### An Italian A.-A. Success.

ITALIAN anti-aircraft artillery on the Lower Piave last week brought down a large Austrian seaplane, K388, capturing three officers, two of whom were badly wounded.

### Over the Andes.

LIEUTENANT CANDELARIA, of the Argentine Army, has crossed the Cordillera of the Andes on a Morane-Saulnier aeroplane.

### Air Fight Over Holland.

THE *Handelsblad* reports that an aerial combat occurred on the morning of April 20th over Cadzand, Zeeland, between four aeroplanes of unknown nationality, which vigorously fired at each other. Heavily shelled by Dutch guns, they disappeared, but one of the aeroplanes was observed to fall into the sea.

### An Aeroplane Fleet Over Holland.

A TELEGRAM from Nes, Ameland, Holland, states that 10 aeroplanes passed over there in a westerly direction on Sunday morning.

### Another Noted German Killed.

INFORMATION has reached Holland that Geigel, the Bavarian pilot, for whom 15 victories are claimed, has been killed on the Western front.

### Woodwork Joints.

WOOD is a most easily worked material provided you have the proper tools and know how to use them. It is therefore a pleasure to come across such books as those in the "Woodworker Series," for they do teach one how to handle wood in order to get satisfactory results. Thus, in the volume on Woodwork Joints there are over 400 sketches, and they have been so carefully drawn that they do really show what they are intended to show. Practically every conceivable

type of woodwork joint is dealt with and after studying the book the woodworker, amateur or professional, should know not only the right joint to use for any particular job, but also how to make it in the right way. There are some workers who know how to make the joints, but their work is indifferent, not because they lack skill or care but because they are unfamiliar with some simple rule which governs either the setting out or the method of using the tool. In this way the book is useful alike to the beginner and to the expert, and the latter will find the full index very useful. The book, bound in stiff covers, is published by Messrs. Evans Brothers at 3s. 6d. net.

### A Hobby for the Wounded.

FOR those who, after leading a healthy active life, are temporarily laid by through wounds, it is essential that they should have suitable mental recreation. Mr. Fred J. Melville, President of the Junior Philatelic Society, makes a strong claim for stamp collecting as a hobby to carry one away from the cares and solitudes of life, in his booklet "The Soldier and His Stamps," published by Stanley Gibbons, Ltd., 391, Strand, W.C.2 (price 6d.). The stamp collection is a compact and handy affair, to which the sufferer can turn at all times, raise it unaided, and revel in the intellectual delights of his hobby. The booklet contains many interesting proofs of the absorbing fascination of the hobby written by soldiers themselves. One, seriously wounded in the Somme offensive in July, 1916, got a mixed lot of stamps sent him in hospital, and spent many happy days arranging them. "I can tell you," he writes, "I was happy as a king and almost forgot my pains." A shell-shocked soldier was told by his surgeon to "bury yourself in your stamps, you'll find it the best tonic in the world."

### The Seasoning of Wood.

THE great demand for aeroplanes has brought into prominence one subject of which little had been known previously, i.e., the seasoning of woods. The seasoning and kiln-drying of timber has come to such importance that there is undoubtedly a fuller need for information based upon scientific study of the behaviour of various species at different temperatures. There is, perhaps, no material or substance that gives up its moisture with more resistance than wood, and now that there is not the time available to season it by natural means, it follows that the greatest care must be taken with artificial methods if the strength of the wood is not to be spoilt. The book which Mr. Joseph B. Wagner has written, therefore, comes at an opportune time. It is a treatise on the natural and artificial processes employed in the preparation of lumber for manufacture, with detailed explanations of its uses, characteristics and properties. There are over 100 illustrations. It is published by the D. van Nostrand Co., of New York, and is sold in this country by Messrs. Crosby Lockwood and Son at 16s. net.

## IMPORTS AND EXPORTS, 1917-1918.

AEROPLANES, airships, balloons, and parts thereof (not shown separately before 1910). For 1910 and 1911 figures see "FLIGHT" for January 25th, 1912; for 1912 and 1913, see "FLIGHT" for January 17th, 1914; for 1914, see "FLIGHT" for January 15th, 1915; for 1915, see "FLIGHT" for January 13th, 1916; for 1916, see "FLIGHT" for January 11th, 1917; and for 1917, see "FLIGHT" for January 24th, 1918.

	Imports.		Exports.		Re-Exportation.	
	1917.	1918.	1917.	1918.	1917.	1918.
January...	10,842	49,402	67,033	24,765	—	—
February	9,479	51,941	26,512	13,545	6	—
March ...	11,158	47,930	58,517	11,451	—	1,000
	31,479	149,273	152,062	49,761	6	1,000

## CORRESPONDENCE.

### The Steel Trade and Amateur Merchants.

[1957] At the present moment when the output of aeroplanes is of vital importance, it may interest you to learn that the Air Board have decided to dispense with merchants of this country who have been carrying stocks of aircraft steel, having regard to current supplies. Notwithstanding this, however, they are opening stores in various parts and supplying consumers from same, which practically means that they are acting as merchants themselves. If this would in any way help to relieve the situation we should be patriotic enough to accept their decision and devote our energies in other directions, but we hear on every hand, nothing but complaints of the delay and difficulty experienced by aircraft contractors in obtaining their supplies from Air Board Stores, which would not have occurred had the warehouses and staff of the stockholding merchants, with their years of experience, been taken over.

We are trying to get this matter raised in the House of Commons, and meanwhile, trust you can find space in your columns to ventilate our grievance.

SAMUEL MERCER AND CO.

198, Upper Thames Street, E.C. 4. April 22nd, 1918.

### The Aviation Pocket Book.

THE 1918 edition of Mr. Borlase Matthews' useful handbook, although the price has gone up to 6s., is still good value. It has again been necessary to rewrite a considerable portion of the book to keep it as up to date as possible, and a certain amount of re-arrangement has been carried out to facilitate reference. Thus there is a good deal of additional data on parachutes and some notes on the use of jigs and fixtures for accelerating aeroplane output. Some interesting information has been added to the Meteorological Section, with a view to making it more practicable, and some suggestions of Sir W. Napier Shaw have been embodied. The book is really helpful to all who are engaged in any branch of the aviation industry, and those who are concerned with the technical side will find the divisions dealing with Air Pressure and Resistance, Aeroplane Design, Airscrews, and Materials for aeroplane construction, especially useful. The section dealing with typical aeroplanes has been brought up to date and includes several diagrams of modern machines. Messrs. Crosby Lockwood and Son are the publishers, and copies can be had from "FLIGHT" Offices for 6s. 6d. post free.

### An Aeroplane Fatality.

SEVERAL villagers were watching an aeroplane which was forced to descend by engine trouble near Bath on the evening of April 12th, when the machine crashed into them. Mrs. Rhoda Mortimer had her skull fractured and died in Bath Hospital afterwards, and other persons were injured, though not seriously.

## PUBLICATIONS RECEIVED.

*Types of British Aircraft.* Brown Brothers, Ltd., Great Eastern Street, E.C.2.

*The "Aeroplane" Blue Book: A Directory of Aircraft Finance, 1918.* Edited by G. A. London: The Aeroplane and General Publishing Co., Ltd., 166, Piccadilly, W. Price 1s. 6d. net.

*Seasoning of Wood.* By Joseph B. Wagner. New York: D. Van Nostrand Co. London: Crosby Lockwood and Son, Price 16s. net.

*Syndication in the Brass Industry.* By Howard F. Smith. Birmingham: H. F. Smith, 7, Hampton Street.

## COMPANY MATTERS.

### Vickers.

THE directors hope that the accounts for 1915 will soon be completed, but the completion of the accounts for 1916 and 1917 must still be delayed for a considerable time. An extraordinary meeting will be held after the general meeting on April 25th to alter the articles of association so as to give more powers to the directors. It is desired to acquire, establish or carry on any business or industry, whether manufacturing or otherwise, which may be calculated to be profitable, and to form any company or companies for acquiring any property or rights which may seem directly or indirectly calculated to benefit the company.

### NEW COMPANIES REGISTERED.

KELLOID, LTD., 36, Black Lion Street, Brighton.—Capital £1,000, in 1s. shares. Paint, dope, leather and rubber manufacturers, &c. First directors: T. D. Kelly and G. Draper.

METROPOLITAN ASSOCIATED ENGINEERS, LTD.—Capital £3,000, in £1 shares. Acquiring business of a mechanical and consulting engineer carried on by E. Blunt at 65, Camden Road, and elsewhere in London as the "Camden Associated Engineers," aeronautical engineers, &c. E. P. Blunt is first director.

NONOX, LTD.—Capital £1,000, in £1 shares. Acquiring business carried on at 39, St. James Street, S.W., as "Henry Knox and Co.," manufacturers of, and dealers in, aeroplanes, airships, &c. First directors: H. Knox and J. B. Wild.

THAMES ENGINEERING AND AIRCRAFT CO., LTD., Point Pleasant Wharf, Wandsworth, S.W.—Capital £20,000, in 10,000 10 per cent. non-cumulative preference shares of £1 each and 40,000 deferred shares of 5s. each. First directors: F. C. March, J. C. Staton, and C. H. St. J. Cooper.

### Aeronautical Patents Published.

#### Applied for in 1917.

The numbers in brackets are those under which the Specifications will be printed and abridged, &c.

Published April 25th, 1918.

4,149. J. R. LINES. Propelling aeroplanes and seaplanes. (114,329.)

4,529. F. HARRIS. Instrument for directing fire of anti-aircraft guns. (114,341.)

11,056. W. E. CHESTER. Landing gear for aircraft. (114,383.)

### NOTICE TO ADVERTISERS.

THE Publisher regrets that, owing to pressure upon the advertisement columns, it has been necessary to leave out several pages of advertisements.

IN order that "FLIGHT" may continue to be published at the usual time, it is now necessary to close for Press earlier. All Advertisement Copy and Blocks must be delivered at the Offices of "FLIGHT," 36, Great Queen Street, Kingsway, W.C. 2, not later than 12 o'clock on Saturday in each week for the following week's issue.

If you require anything pertaining to aviation, study "FLIGHT'S" Buyers' Guide and Trade Directory, which appears in our advertisement pages each week (see pages xlviii, xlix, and l).

## FLIGHT

and The Aircraft Engineer.

36, GREAT QUEEN STREET, KINGSWAY, W.C. 2.  
Telegraphic address: Truditur, Westcent, London.  
Telephone: Gerrard 1828.

### SUBSCRIPTION RATES.

"FLIGHT" will be forwarded, post free, at the following rates:—

UNITED KINGDOM.			ABROAD.		
	s.	d.		s.	d.
3 Months, Post free..	7	1	3 Months, Post Free..	8	3
6 " " " ..	14	1	6 " " " ..	16	6
12 " " " ..	28	2	12 " " " ..	33	0

Cheques and Post Office Orders should be made payable to the Proprietors of "FLIGHT," 36, Great Queen Street, Kingsway, W.C. 2, and crossed London County and Westminster Bank, otherwise no responsibility will be accepted.

Should any difficulty be experienced in procuring "FLIGHT" from local newsvendors, intending readers can obtain each issue direct from the publishing office, by forwarding remittance as above.